Easy Steps in ARITHMETIC

1



Easy Steps in Arithmetic--Book One

By THOMAS J. DURELL

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Many children go through our schools without any real understanding of arithmetic. This state of affairs is brought about partially by the fact that children are not given enough number experiences. Our children, therefore, need a better understanding of the basic number concepts.

EASY STEPS IN ARITHMETIC has been constructed to remedy the above situation. To this end, the following principles have been built into this book.

Meanings. Concepts and meanings are built *before* abstract computation is introduced. The learning program in Book One provides for developing arithmetical meanings rather than mastery of abstract processes at this early level.

Easy Steps in Learning. Learning does not occur all at once. Simpler phases of a process are introduced and successive harder steps are built gradually throughout the book. Thus, the level of quantitative understanding and thinking is gradually raised.

Maintenance. After new concepts and skills have been introduced, there is need for a definite program of maintenance. Delayed recall is provided for through the mixed reviews (Review Number Stories) which appear near the end of each unit throughout the book. Pupils are not permitted to forget the meanings which have been developed in preceding units.

Frequent Diagnoses of New Work. Individual and class diagnoses (Checks on Units 1, 2, 3, etc.) are provided for the new work introduced in each unit. Through these checks, the teacher is made aware of individual and class difficulties at various stages of progress. Thus, many difficulties are revealed and can be eliminated before the child is introduced to the next unit or step in difficulty.

Highly Interesting Content. Content has been selected on the basis of normal experiences, needs, and interests of children for the various maturity levels.

Real But Easy Problems. Problems represent experiences which have real meanings for the pupils. Problems are stated simply and clearly.

Easy Vocabulary. Vocabulary difficulties are minimized. Long and involved sentences are eliminated. However, the child need not be asked to do the reading himself. The teacher should read all directions to her pupils whenever necessary or desirable.

Action Pictures. Pictures are used throughout the book to develop arithmetical concepts and meanings. The pictures used are full of action. They appeal to the child's sense of humor and imagination. Many of the pictures tell a complete story in themselves.

SUMMARY OF CONTENTS

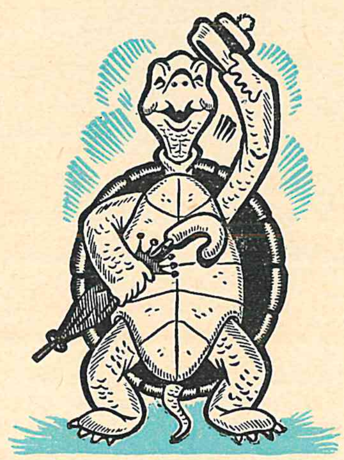
Topic	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8
Counting and writing numbers by ones to ten	2, 3 4, 7	10, 11 12	17	24	31			57
Knowledge of the place of the numbers in the series						39		57
Number words	5, 6	12	18, 19	24, 25	32		48	57, 58
Developing meanings of the combinations	8	13, 14	20, 21 22	26, 27 28	33, 34 35, 36	40, 41 42, 43	50, 51 52, 53	59, 60 61, 62
Ordinals							49	
Fractions—½ of single objects						45, 47		
Measures Time						44, 47		
Money							54, 56	
Maintenance program review		15		29	37	46	55	63
Diagnosis and check on new work of each unit	9	16	23	30	38	47	56	64

See Inside Back Cover for How To Use *Easy Steps in Arithmetic*.

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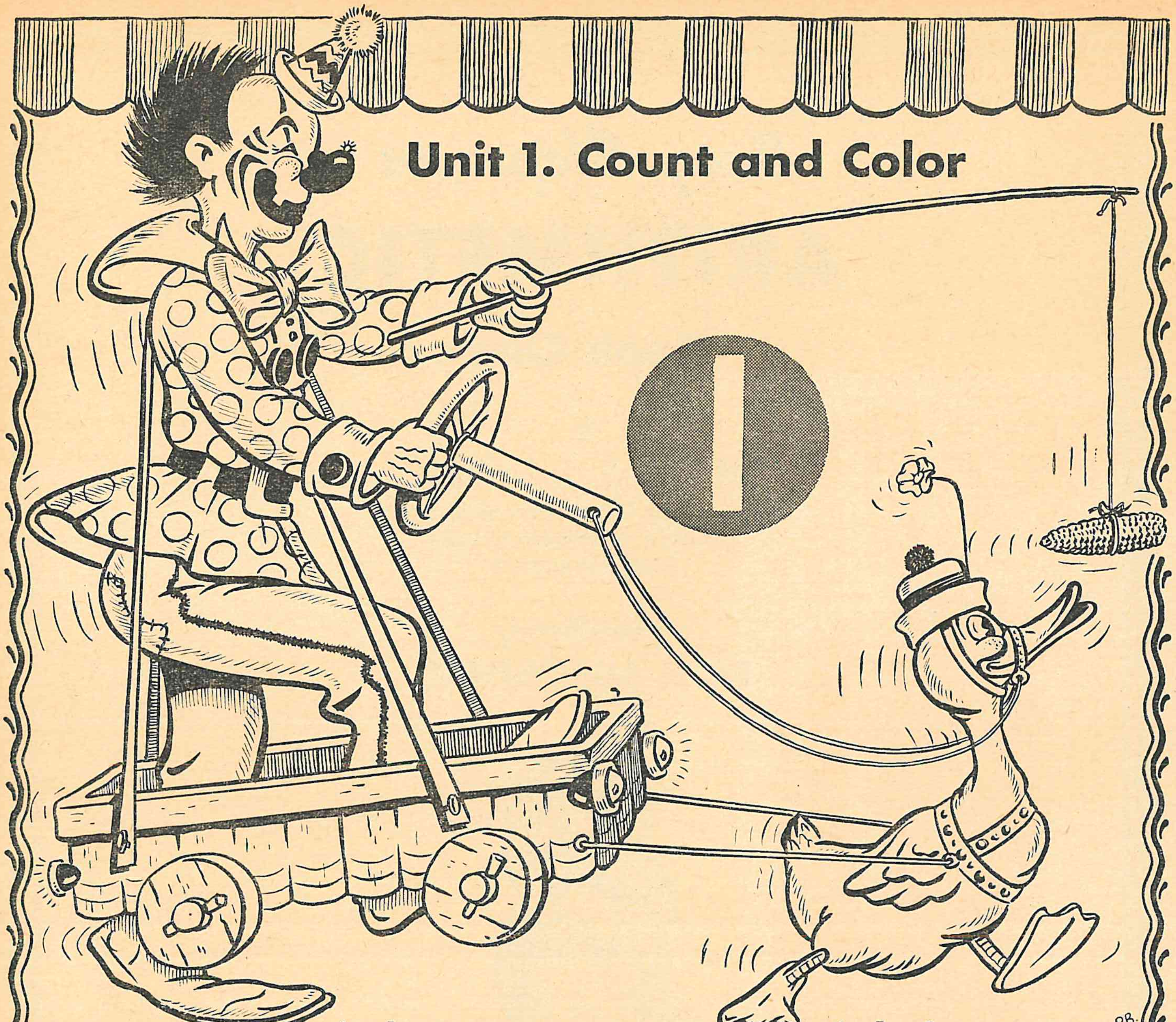


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Unit 1. Count and Color



1 clown 1 duck

Write

Note to Teacher: This book has been planned to give the child interesting things to do, and, at the same time, to develop number concepts and the ability to use arithmetic facts in everyday life.

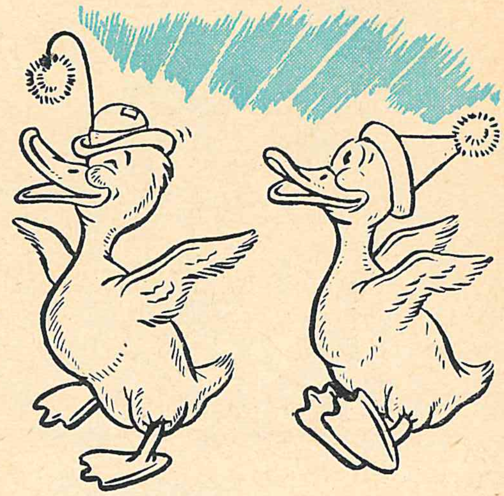
Each new topic should be presented clearly so that the child understands what he is to do. Demonstrate a new topic on the blackboard and in class activities before the children begin work in this book. All directions in this book should be read to the children.

Count different objects in the classroom—books, papers, chairs, children, etc. Supervise carefully the writing of each number. Write a number several times on the blackboard. Be sure each pupil knows where to begin in writing each number.

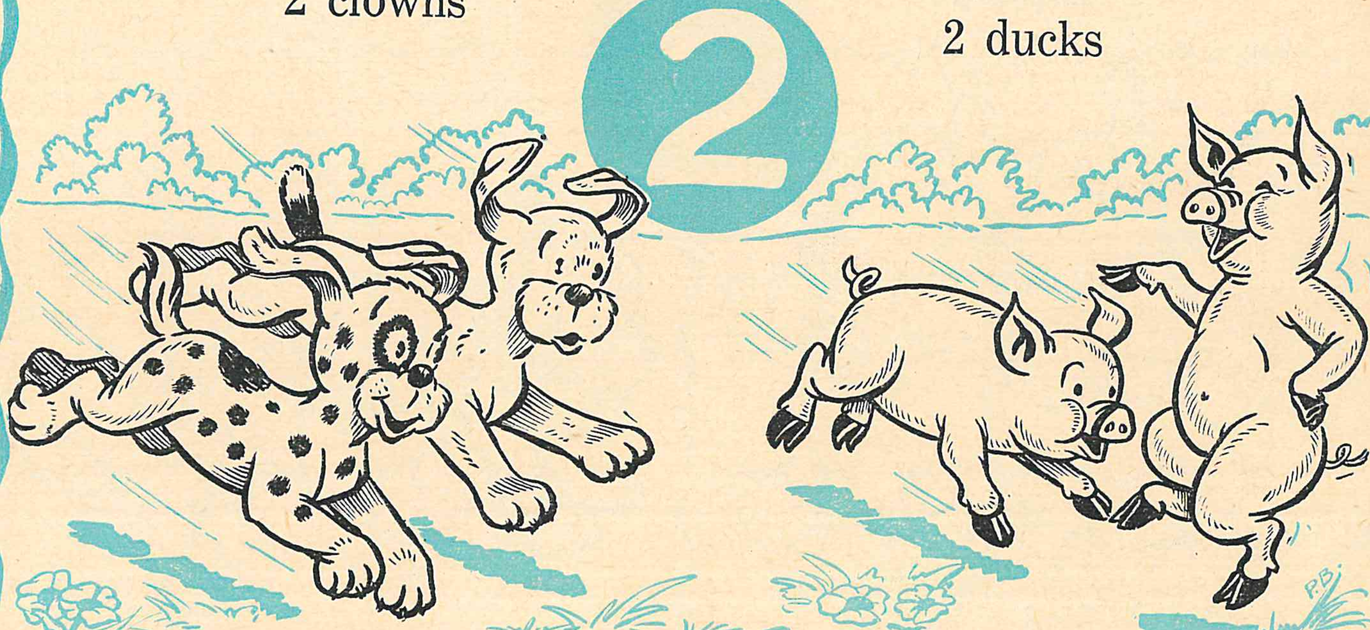
Count and Color



2 clowns



2 ducks



2 dogs

2 pigs

Write

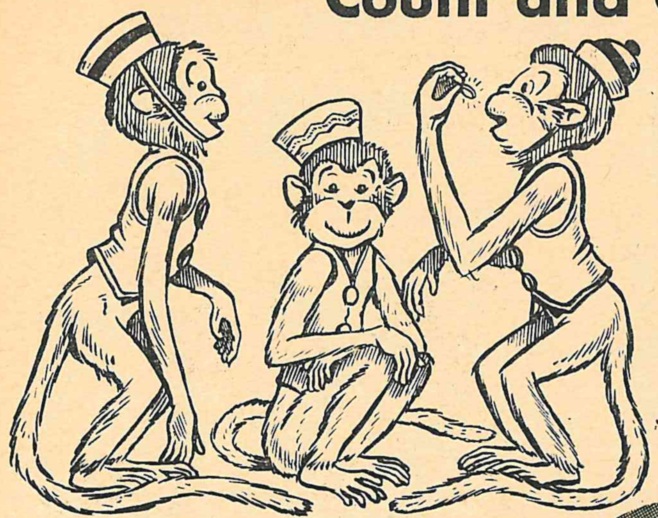
2 × × × × × × ×

2 × × × × × × ×

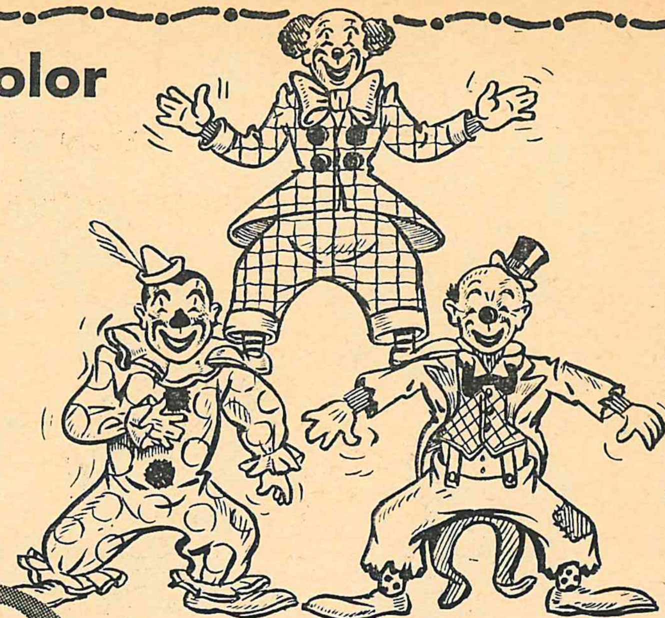
NOTE TO TEACHER: Most children come to school knowing how to count by *rote;* that is, saying the number words in regular order. However, children need help in learning to *enumerate.* To enumerate, pupils point to each object at the same time saying the appropriate number word for the total at any particular point. The children may touch and count chairs, desks, tables, etc.

Recognize the fact that enumeration is difficult; give plenty of practice. Have the children actually move the objects as they enumerate, or say, each number name. Begin with large objects, such as children, books, scissors. Then go to smaller objects, such as nuts, balls, jacks, marbles. Next go to more abstract objects, such as dots, crosses, squares. Don't hurry.

Count and Color

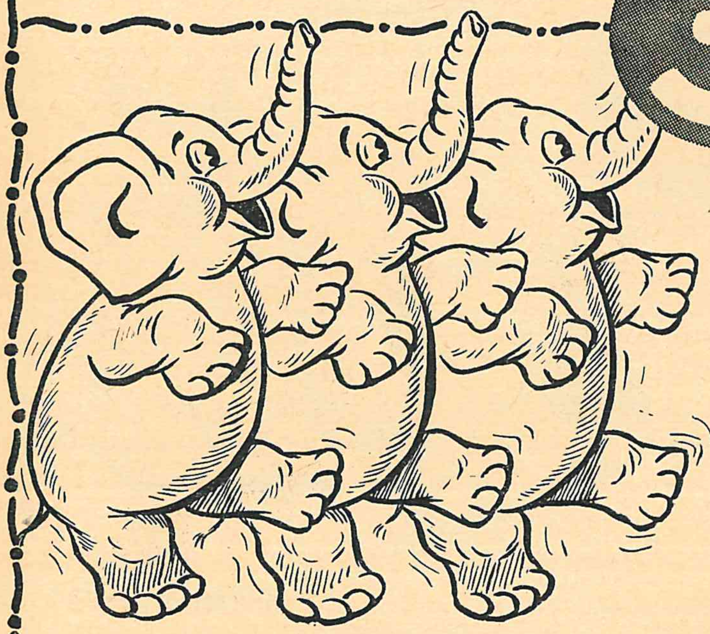


3 monkeys

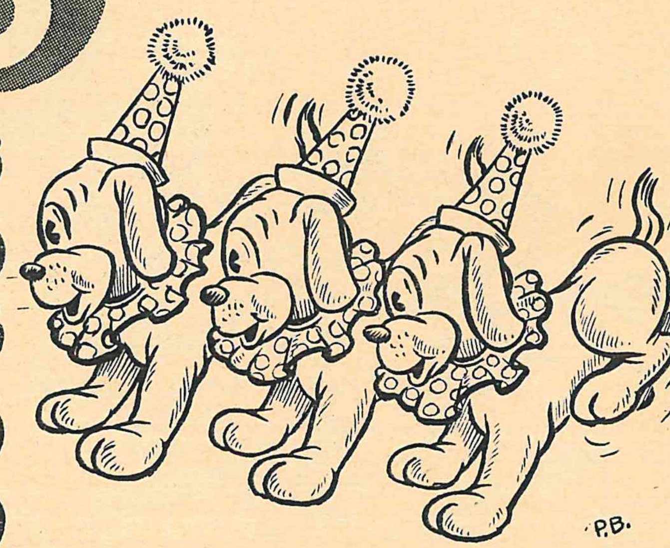


3 clowns

3



3 elephants



3 dogs

Write

3 × × × × ×

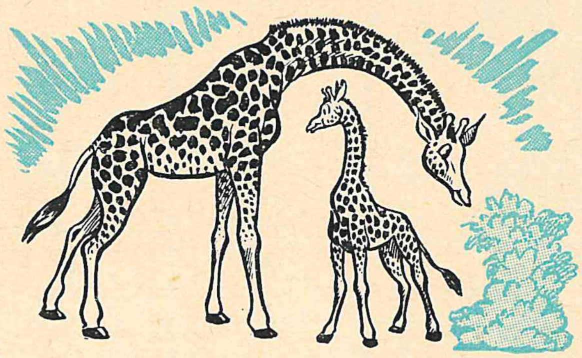
3 × × × × ×

NOTE TO TEACHER: Practice in writing numbers should be given daily until each child can make each number correctly. Each day, some child may write the date on a large calendar which may be kept on the blackboard. Place picture cards of animals, toys, and other objects on the blackboard ledge. Choose a child to write the number above each card.

Do not restrict number activities to the arithmetic period. Point out number facts at whatever time they may occur in the children's activities. Examples: counting materials needed for any type of work, telling dates of birthdays, reading numbers on a calendar, recording game scores on the blackboard, et cetera.

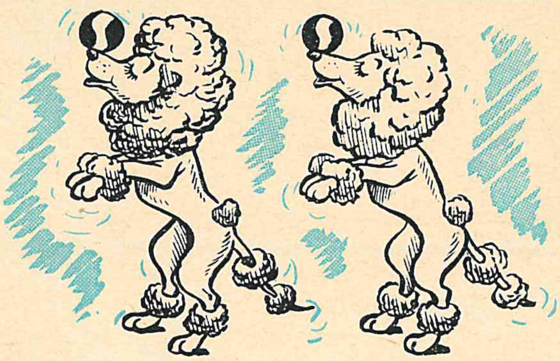
Number Words: One, Two, Three

Color the pictures and write the numbers.



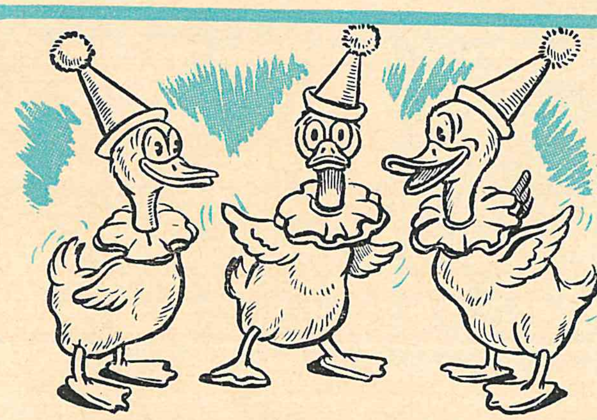
two giraffes

-------- giraffes



two dogs

-------- dogs



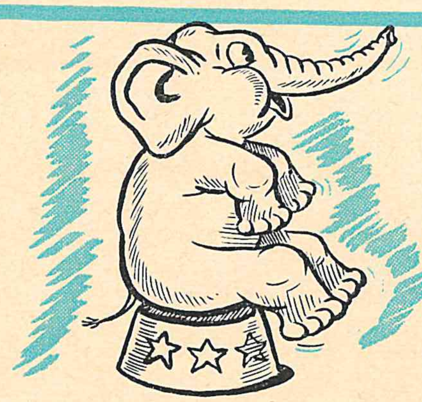
three ducks

-------- ducks



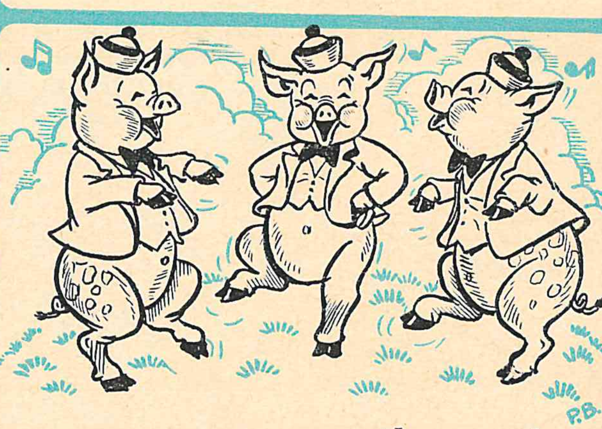
one monkey

-------- monkey



one elephant

-------- elephant

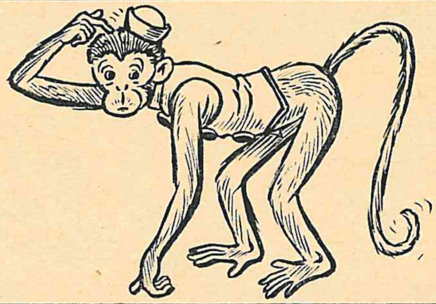
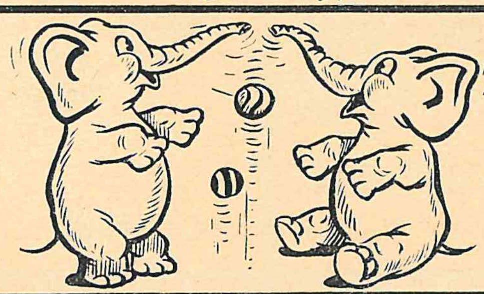
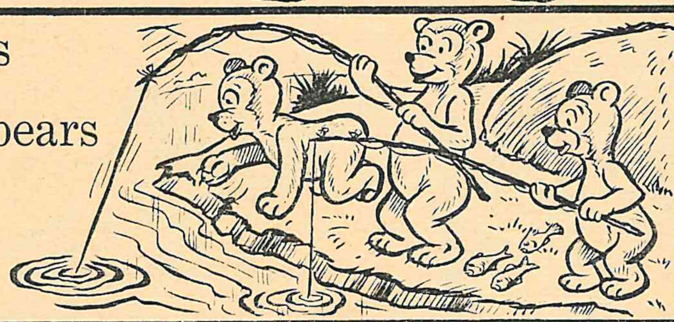


three pigs

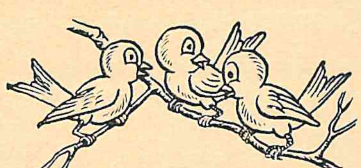
-------- pigs

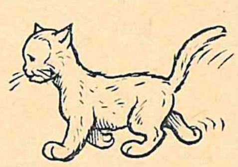
Numbers and Number Words

Draw a ring around the right number and number word for each picture.

1 monkey one monkey		1 2 3	one two three
2 elephants two elephants		1 2 3	one two three
3 bears three bears		1 2 3	one two three

Draw a line from each number word to the right picture.

one 

two 

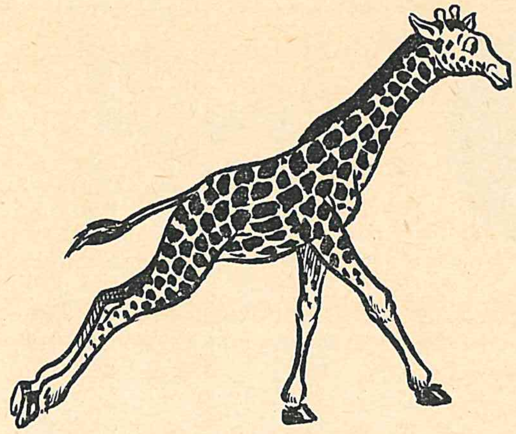
three 

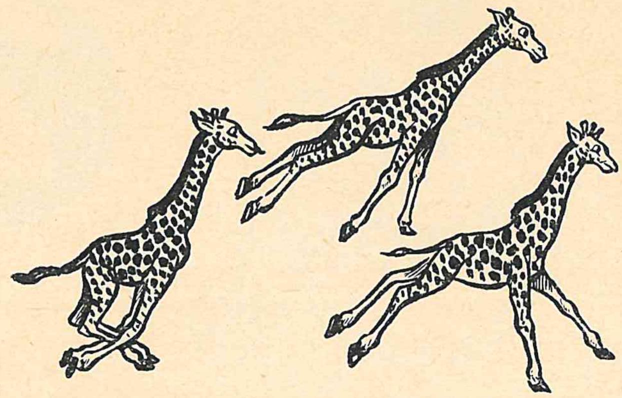
Draw a line from each number to the right number word.

1	two
2	three
3	one

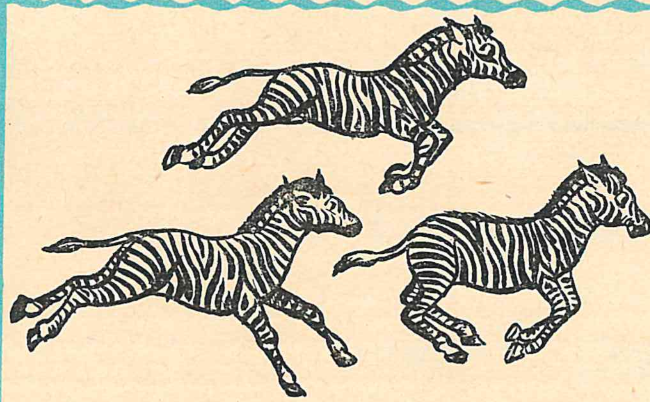
Big and Little

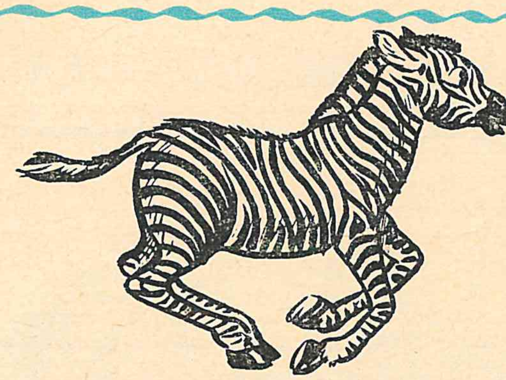
Color the pictures and write the numbers for each picture.





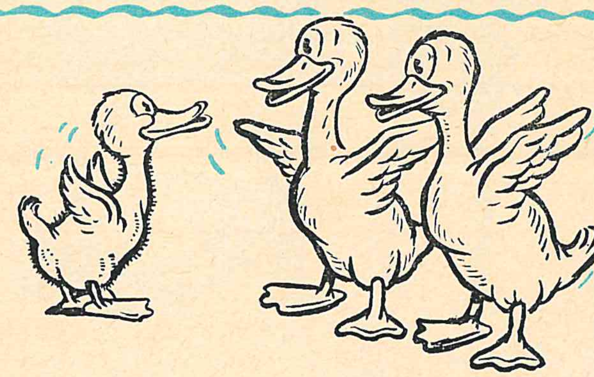
.... big giraffe .... little giraffes





.... little zebras .... big zebra



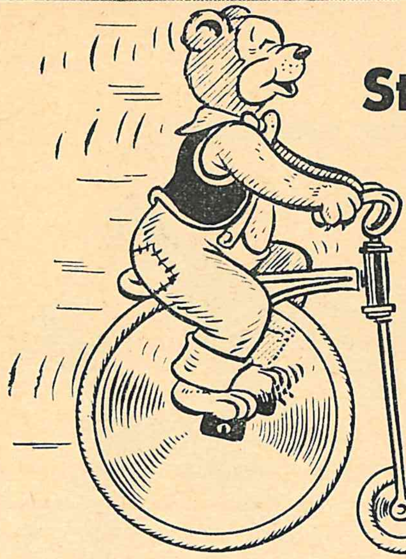


.... little bears .... big ducks

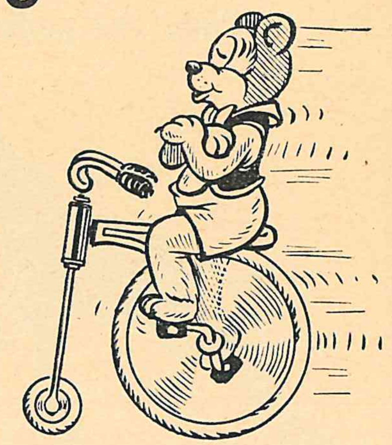
.... big bear .... little duck

NOTE TO TEACHER: Read all directions to the children. Then illustrate on blackboard. Discuss pictures with the children, compare sizes of the animals. The pictures help the children to identify the words used; as giraffe, bear, etc.

Stories About Two



2

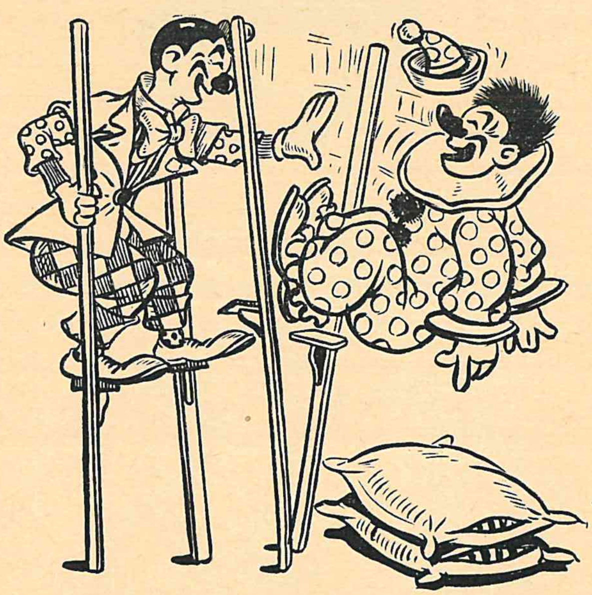


1 bear and 1 bear are .... bears.

1 bear
1 bear
______
.... bears

1
1
__

1 and 1 are ....   1 + 1 =



1 clown and 1 clown

are .... clowns.

1 and 1 are ....   1 + 1 =

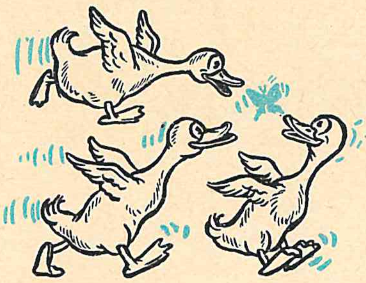
1 clown
1 clown
______
.... clowns

1
1
__

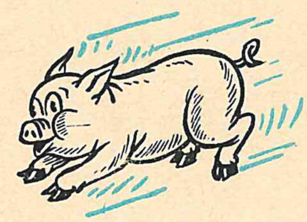
NOTE TO TEACHER: Throughout this book pictures are used to develop the easy addition facts, sums not exceeding ten. Children should be taught the meaning and use of the signs + and = as well as how to read and write the combinations horizontally and vertically. Automatic mastery of the addition facts comes after the child has had many opportunities to discover these facts through numerous concrete objects.

Check on Unit 1

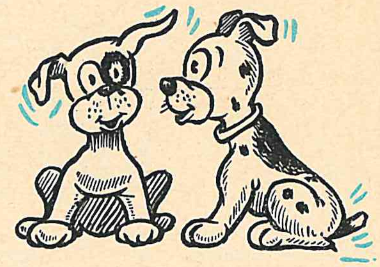
Draw a ring around the right number and word for each picture.



1 2 3
one two three

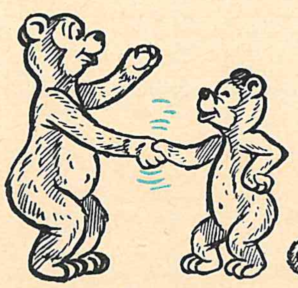


1 3 2
one three two



3 2 1
three two one

Draw a line from each phrase to the correct picture in each box.



big bear
little bear

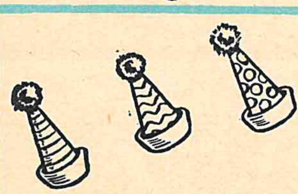
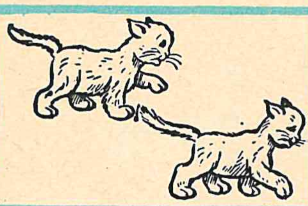


little monkey
big monkey



big clown
little clown

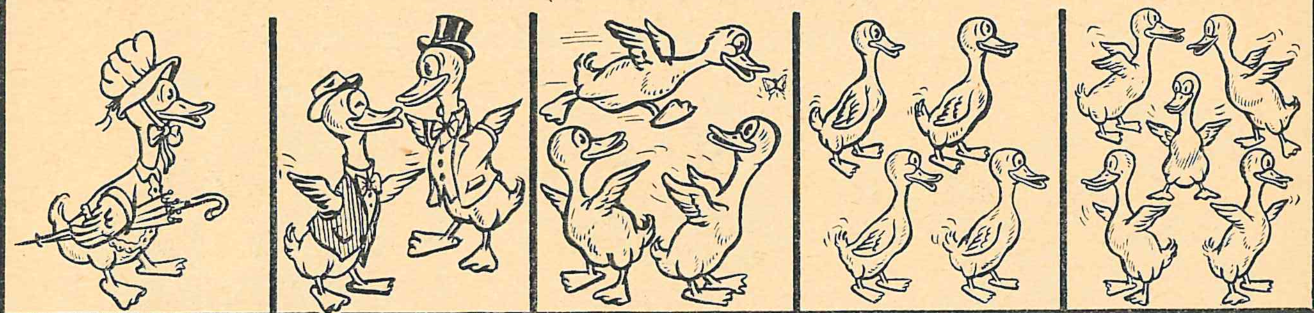
Write the correct number in each space.

	1				
					
					

NOTE TO TEACHER: Read the directions to the children for each part of this page. Otherwise give no help. Do not go on to Unit 2 until each child can write 1, 2, 3 correctly, recognize number names, understand concepts big and little. Provide extra practice for those who need it.

Unit 2. Writing Numbers

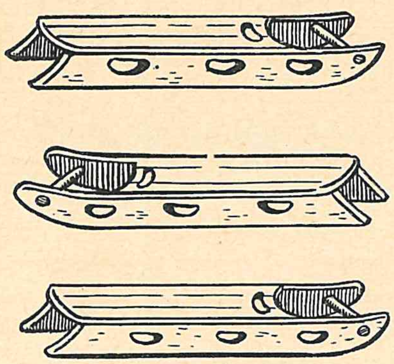
Write the numbers in the boxes below each picture.

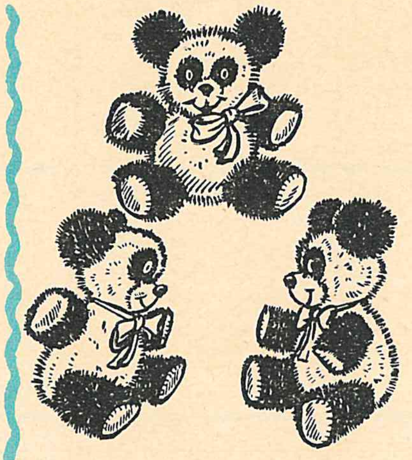


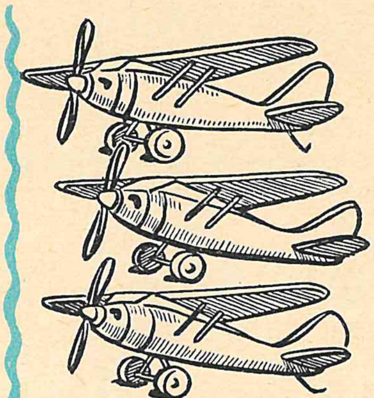
1	2	3	4	5

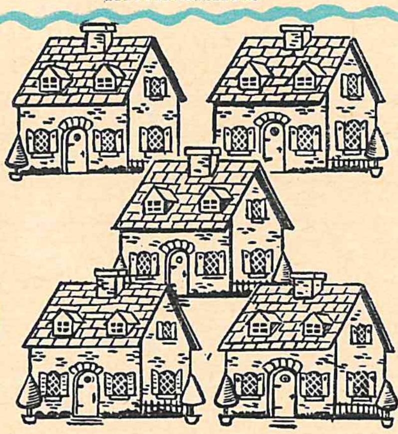
Number Groups and Writing Numbers

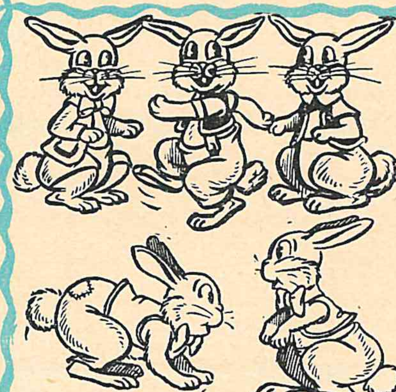
Count the toys. Write the numbers under them.

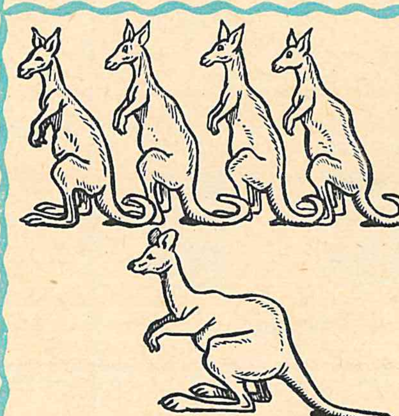


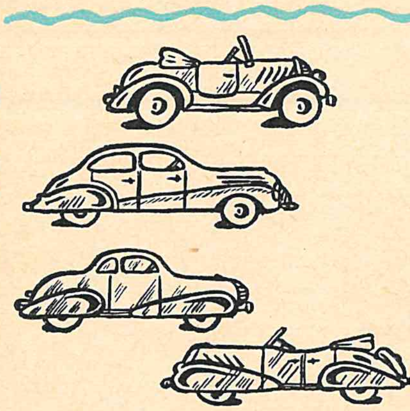








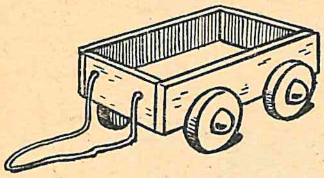
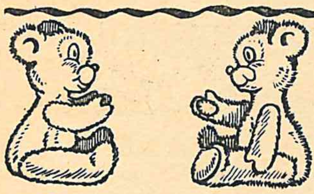
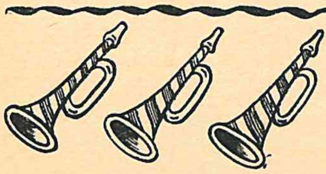
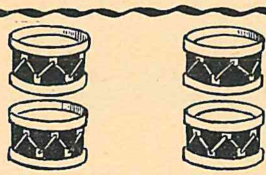
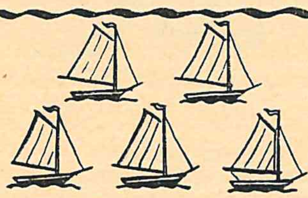








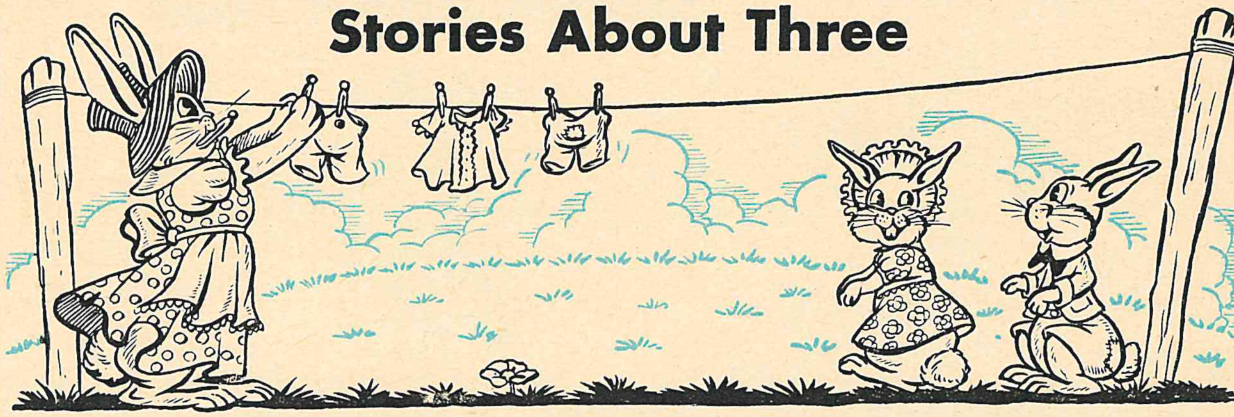
Number Words

	Draw	Write
 1. one		1
 2. two		
 3. three		
 4. four		
 5. five		

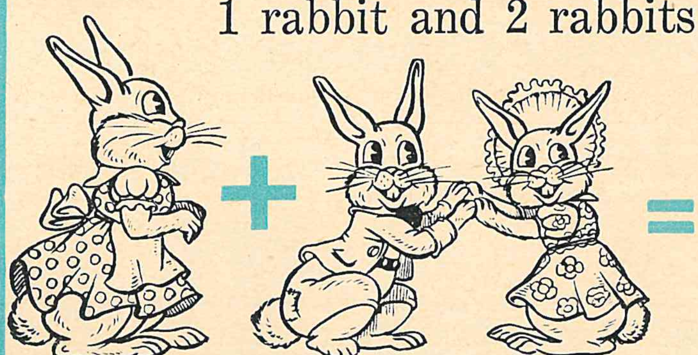
Draw a line from each number to the right word.

1.	three	3.	one	4.	four
2.	one	5.	two	1.	two
3.	four	2.	four	3.	one
4.	five	1.	five	2.	five
5.	two	4.	three	5.	three

Stories About Three

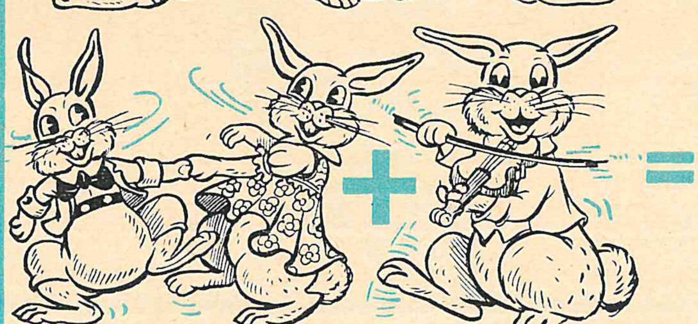


1 rabbit and 2 rabbits are .... rabbits.



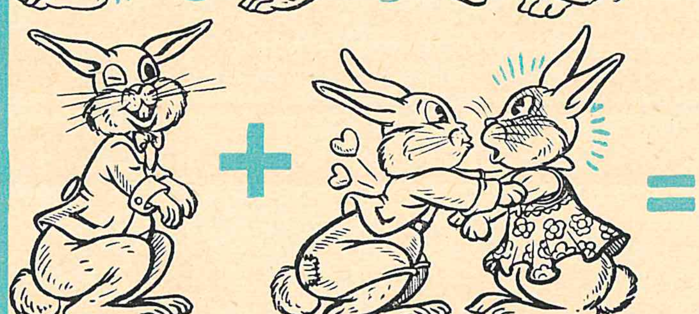
1 and 2 are ....

$1 + 2 =$



2 and 1 are ....

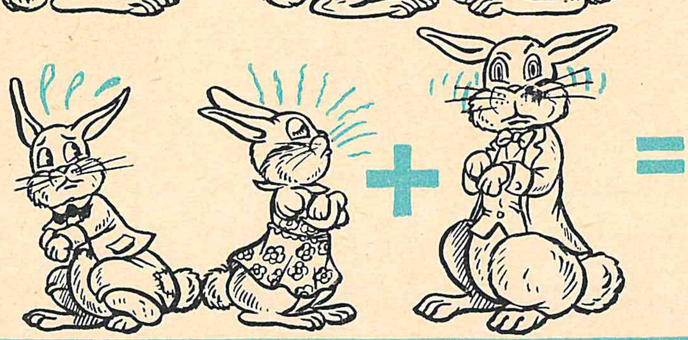
$2 + 1 =$



1 rabbit
2 rabbits
____

.... rabbits

$$\begin{array}{r} 1 \\ \underline{2} \end{array}$$

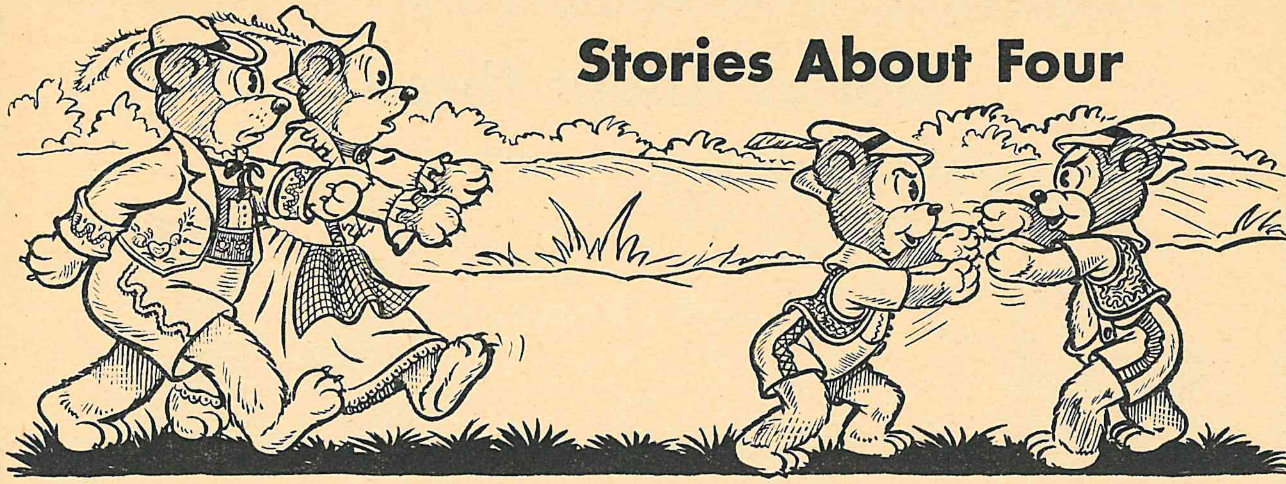


2 rabbits
1 rabbit
____

.... rabbits

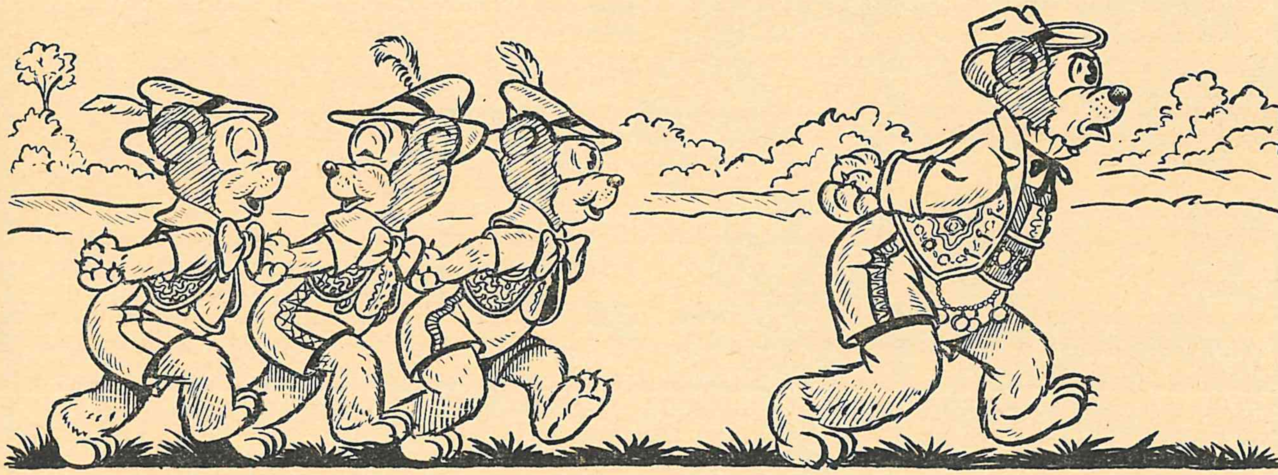
$$\begin{array}{r} 2 \\ \underline{1} \end{array}$$

Stories About Four



Big bears? .... 2 bears and 2 bears are .... bears.

Little bears? .... 2 and 2 are .... $2+2=$



3 little bears and 1 big bear are .... bears.

$$\begin{array}{r} 3 \\ 1 \\ \hline \end{array}$$

3 and 1 are .... $3+1=$

1 big bear and 3 little bears are .... bears.

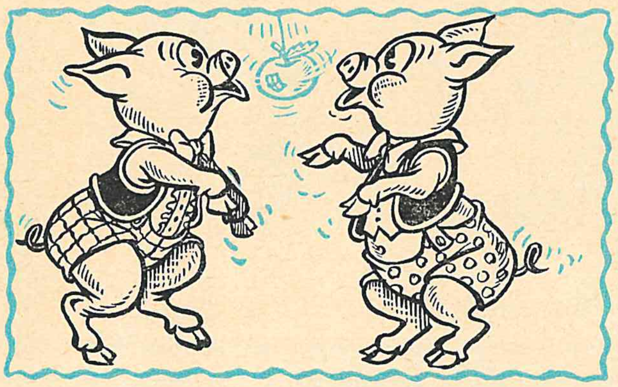
$$\begin{array}{r} 1 \\ 3 \\ \hline \end{array}$$

1 and 3 are .... $1+3=$

Note to Teacher: The child must understand thoroughly the idea of addition and the addition facts to date. There is a strong feeling that while the subtraction facts are to be learned along with the addition facts, the two processes must not be mixed too early. Please note the gradual development in this book.

Review Number Stories

Use the pictures to find the answers.

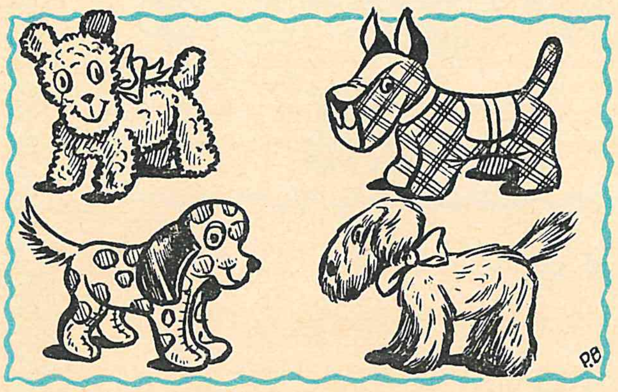


1 pig and 1 pig are .... pigs.

1 and 1 are ....

$$\begin{array}{r} 1 \\ \underline{1} \end{array}$$

$1 + 1 =$

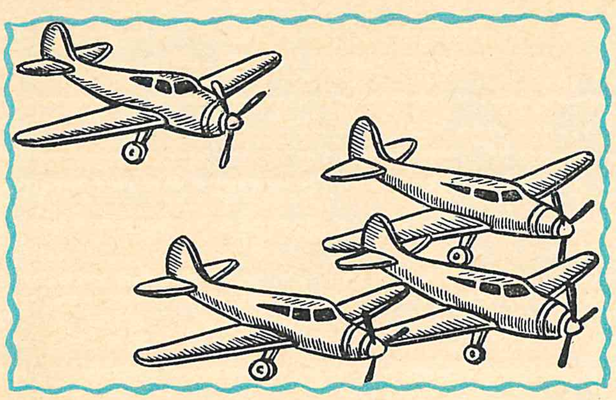


2 dogs and 2 dogs are .... dogs.

2 and 2 are ....

$$\begin{array}{r} 2 \\ \underline{2} \end{array}$$

$2 + 2 =$



1 plane and 3 planes are .... planes.

$$\begin{array}{r} 1 \\ \underline{3} \end{array}$$

1 and 3 are ....

$1 + 3 =$



1 duck and 2 ducks are .... ducks.

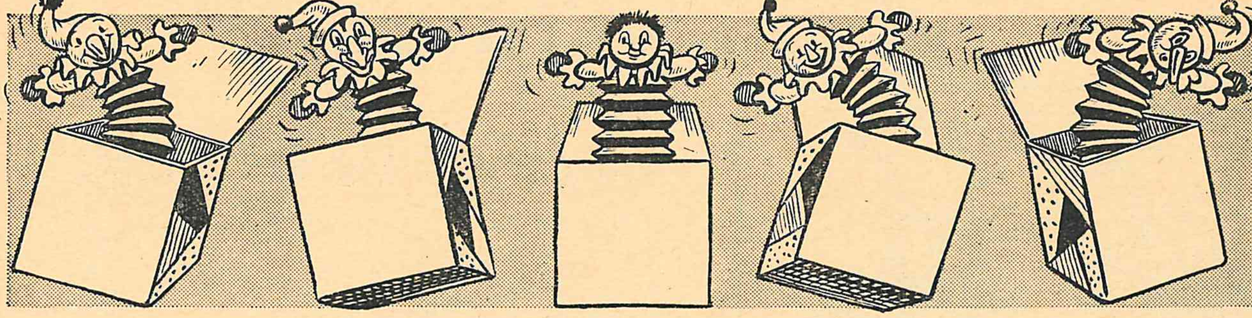
1 and 2 are ....

$$\begin{array}{r} 1 \\ \underline{2} \end{array}$$

$1 + 2 =$

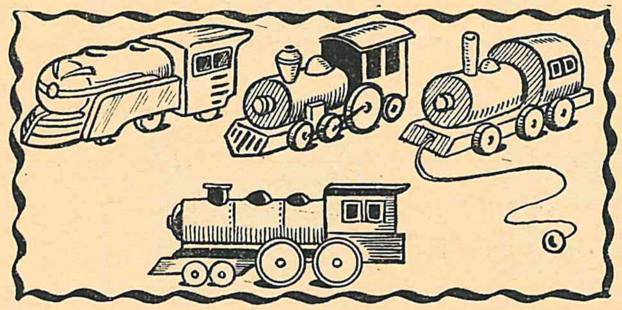
Check on Unit 2

Write the numbers in order on each toy.



Use the pictures to find the answers.



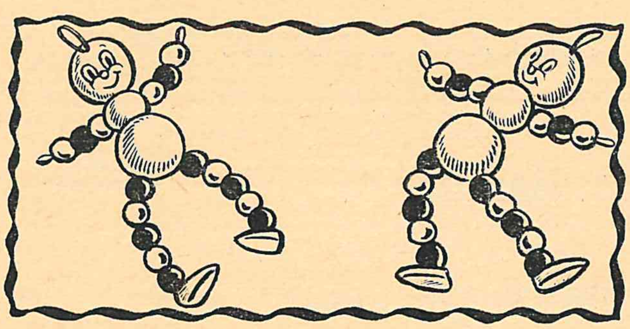


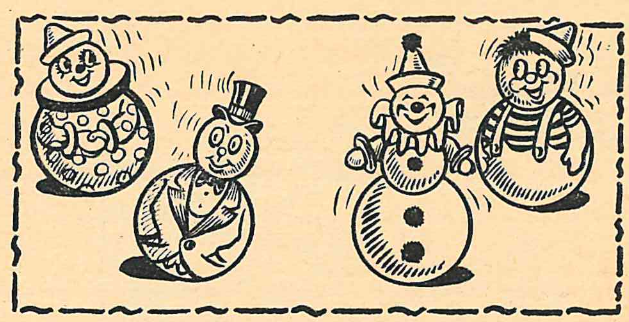
$2 + 1 =$ $\begin{array}{r} 1 \\ 2 \\ \hline \end{array}$

$1 + 2 =$

$3 + 1 =$ $\begin{array}{r} 1 \\ 3 \\ \hline \end{array}$

$1 + 3 =$





$1 + 1 =$

$2 + 2 =$

In each box draw a ring around the number which is the same as the word.

1 2 3 4 5 three	1 2 3 4 5 one	1 2 3 4 5 two
1 2 3 4 5 four	1 2 3 4 5 five	1 2 3 4 5 one

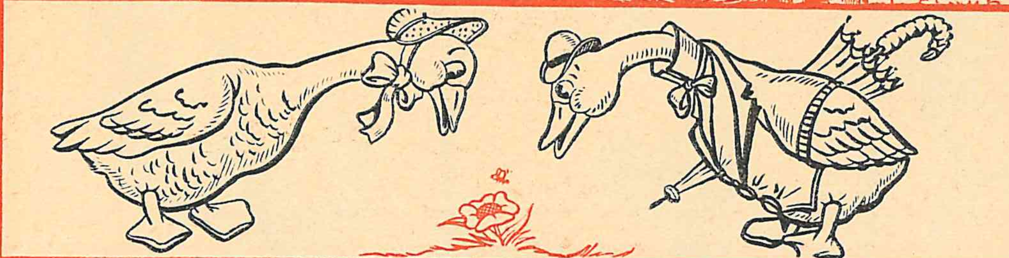
NOTE: See page 9 for directions. Now is the time to begin a wall chart of basic number concepts. See inside back cover.

Unit 3

Writing Numbers



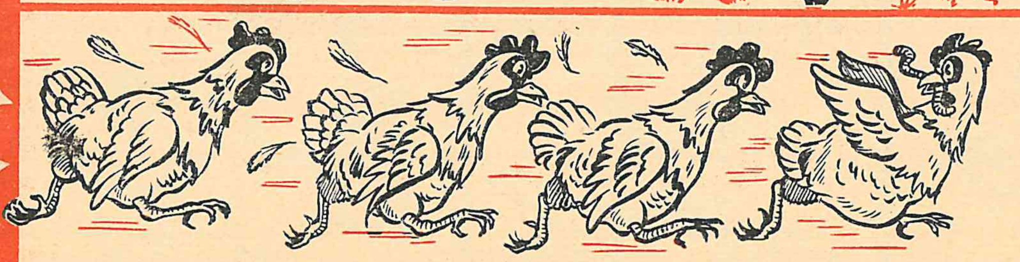
1



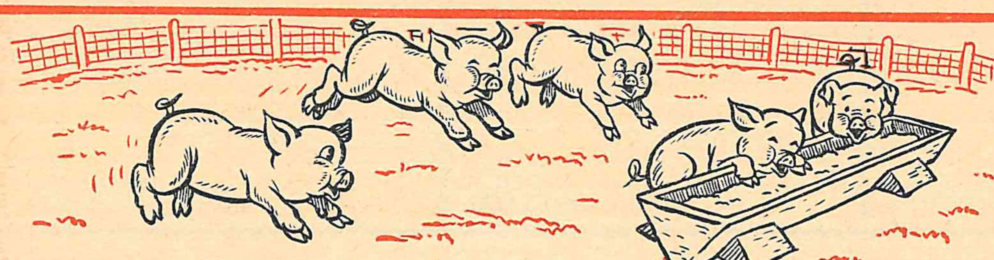
2



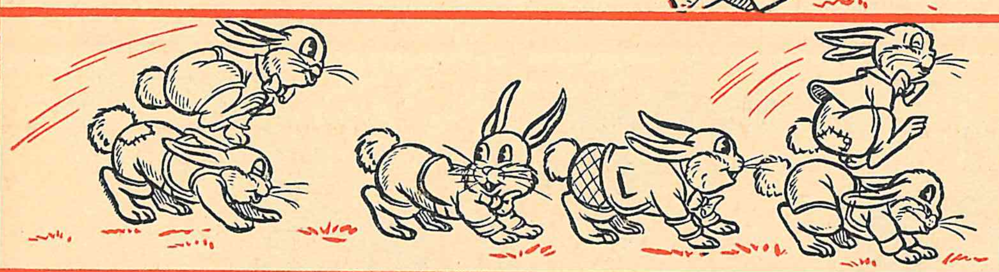
3



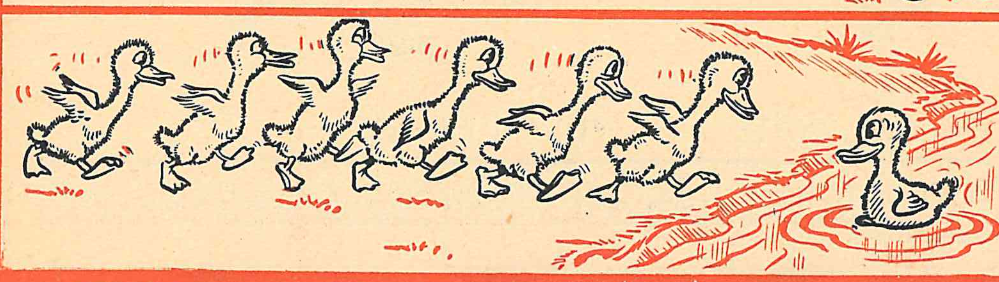
4



5



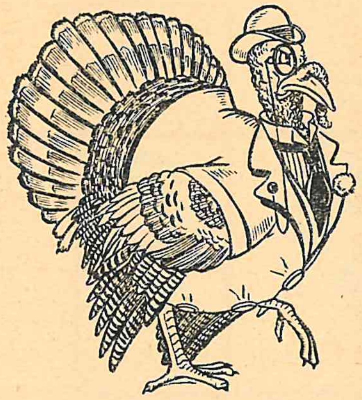
6



7

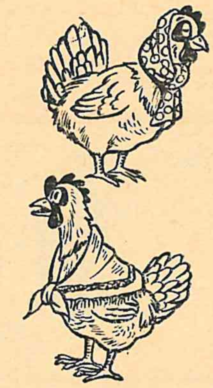
Number Words

Write the numbers under the animals.



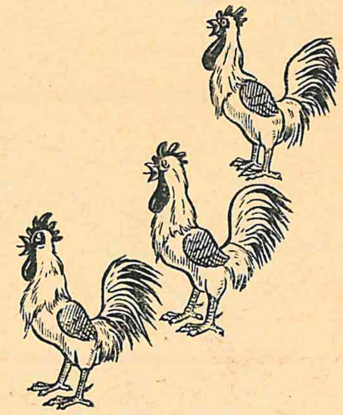
.... turkey

one turkey



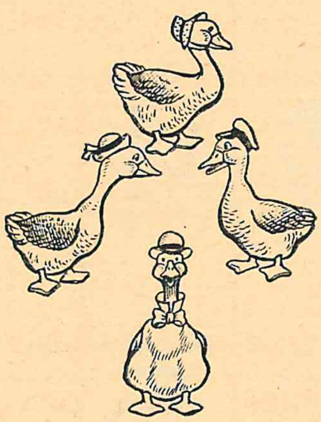
.... hens

two hens



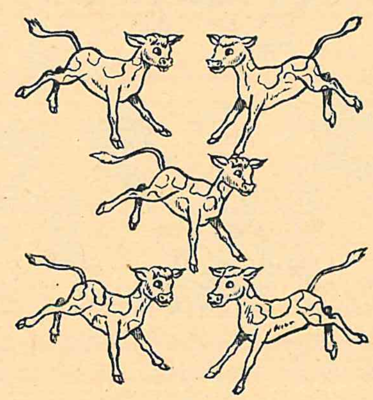
.... roosters

three roosters



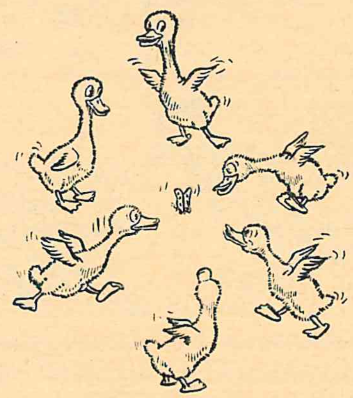
.... geese

four geese



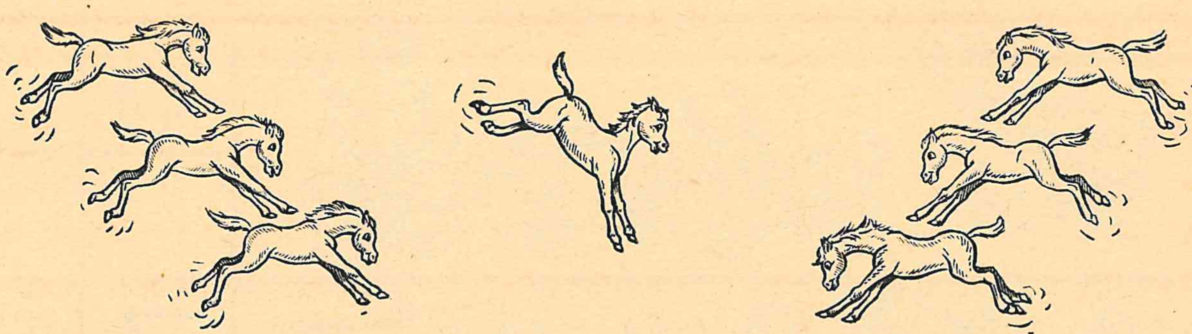
.... calves

five calves



.... ducks

six ducks

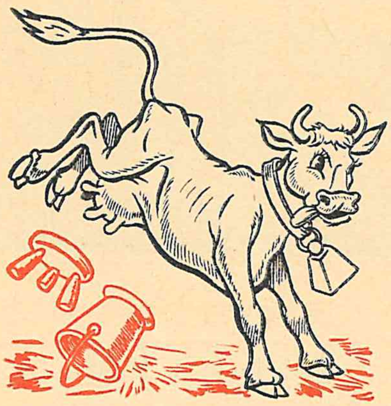


.... colts seven colts

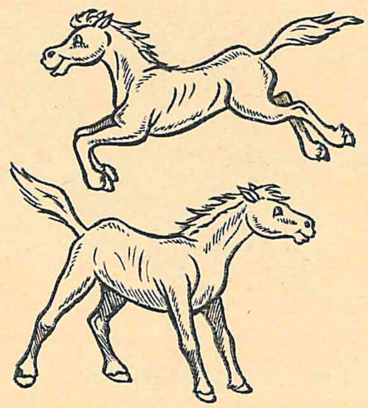
NOTE TO TEACHER: Add 6 and 7 to the large wall chart of numbers. This wall chart should include pictures, numbers, and number words to develop basic concepts of numbers. The chart may be used by the children for reference purposes. Add new numbers as they are developed. Please note on page 19 that the semi-abstract idea of numbers is presented. Heretofore, the pictures have presented the semi-concrete idea of numbers.

Number Groups and Number Words

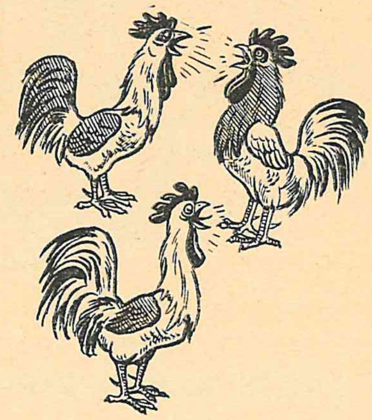
Draw a ring around the right phrase for each picture.



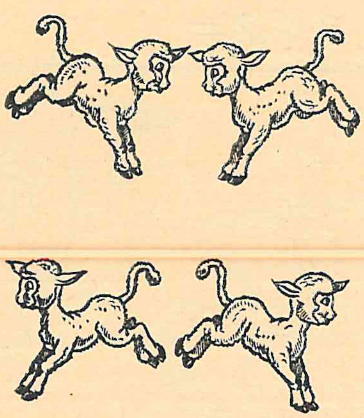
one cow
two cows



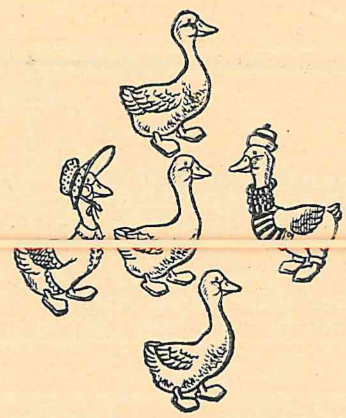
two horses
three horses



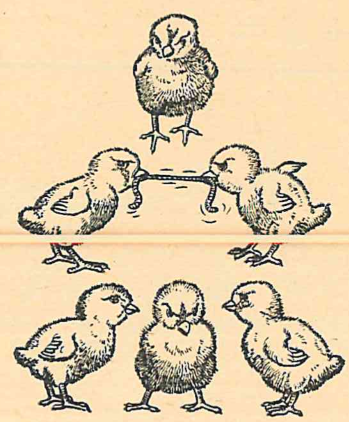
four roosters
three roosters



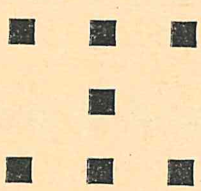
four lambs
five lambs



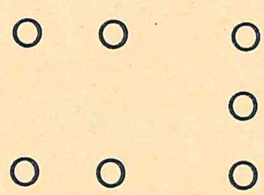
six geese
five geese



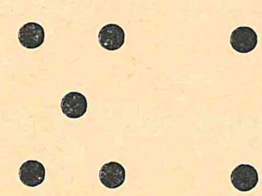
seven chicks
six chicks



seven squares
six squares



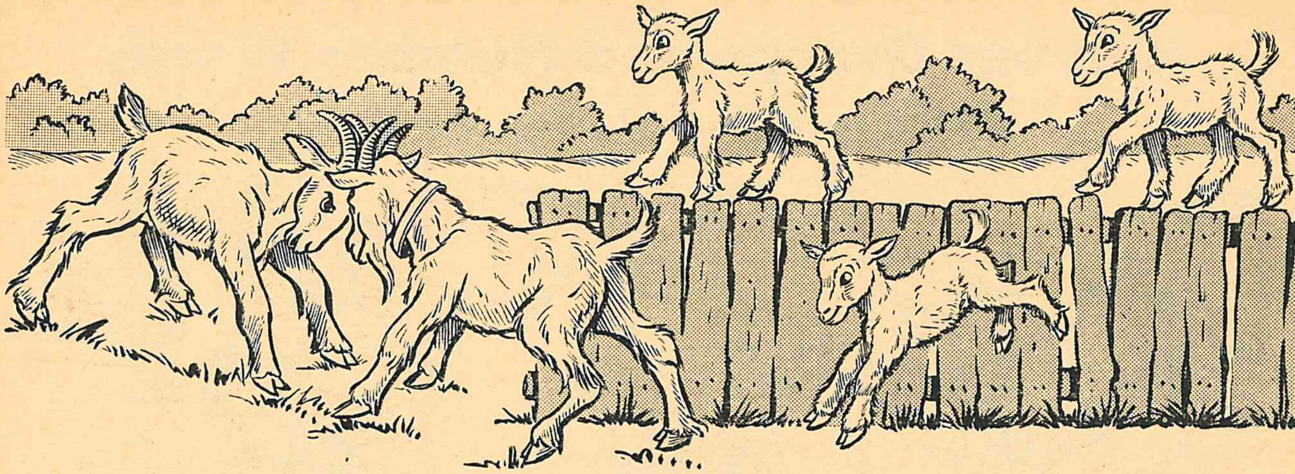
six circles
seven circles



five dots
seven dots

Note to Teacher: Please note that the semi-abstract idea of numbers is presented for the first time in the last row of objects on this page. Heretofore, the pictures have presented the semi-concrete idea of numbers.

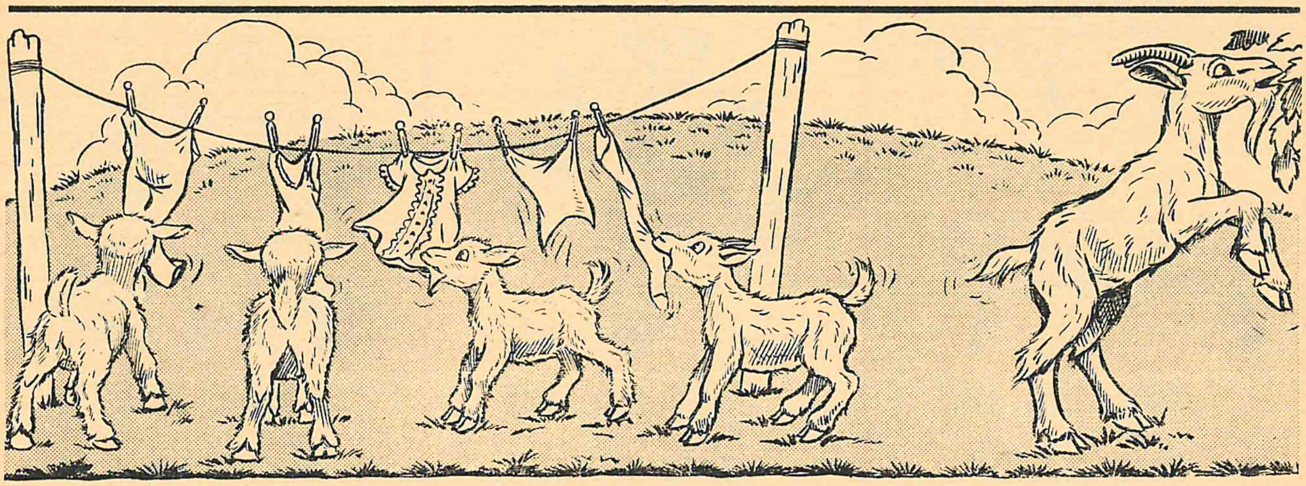
Stories About Five



2 goats and 3 goats are .... goats. 2 and 3 are ....

3 goats and 2 goats are .... goats. 3 and 2 are ....

$2 + 3 =$ $3 + 2 =$



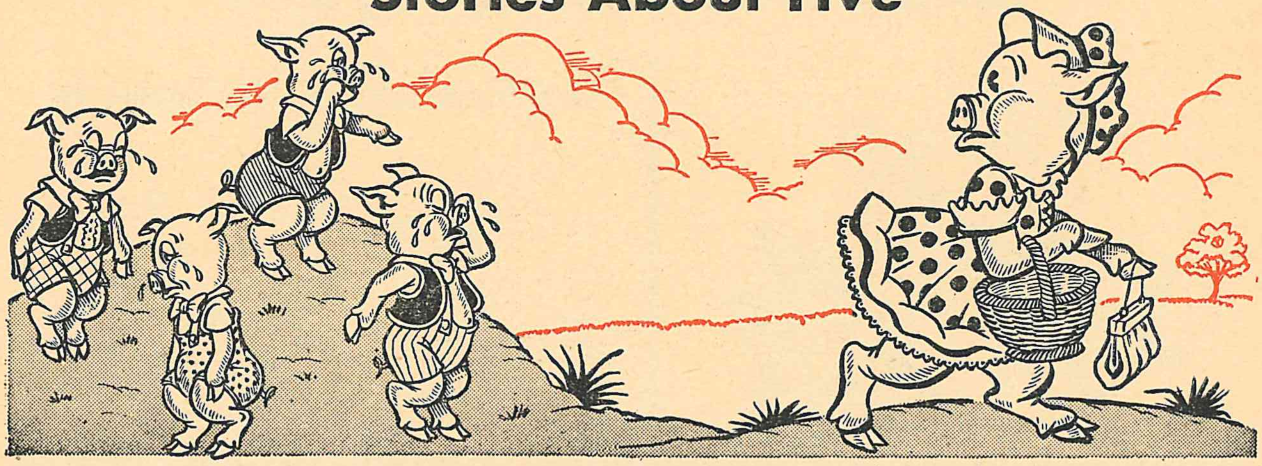
4 goats and 1 goat are .... goats. 4 and 1 are ....

1 goat and 4 goats are .... goats. 1 and 4 are ....

$4 + 1 =$ $1 + 4 =$

$2 + 3 =$ $4 + 1 =$ $3 + 2 =$ $1 + 4 =$

Stories About Five



5 pigs minus 1 pig are .... pigs.

5 minus 1 are ....

5 pigs minus 4 pigs is .... pig.

5 minus 4 is ....

5 − 1 =

5 − 4 =



5 pigs minus 2 pigs are .... pigs.

5 minus 2 are ....

5 pigs minus 3 pigs are .... pigs.

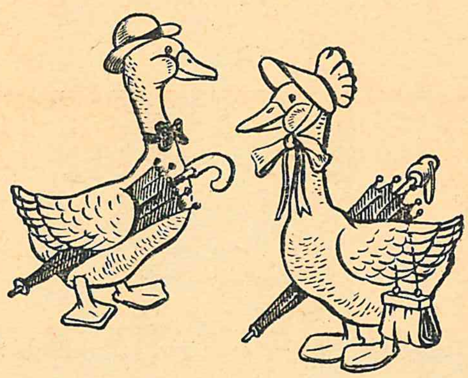
5 minus 3 are ....

5 − 2 =

5 − 3 =

NOTE TO TEACHER: Show the children how the subtraction facts on page 21 are connected with the addition facts on page 20. There is a feeling that if the child is old enough to understand the subtraction process, he can be taught to use the word "minus" instead of "take away." Note that pictures on pages 20 and 21 present addition and subtraction situations.

Minus Stories About 2, 3, 4

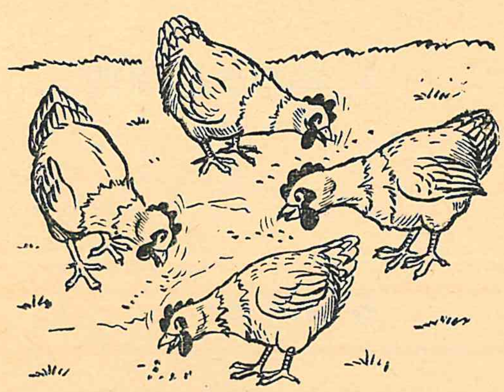


2 geese minus 1 goose is

.... goose.

$$\begin{array}{r} 2 \\ 1 \\ \hline \end{array}$$

$2-1=$

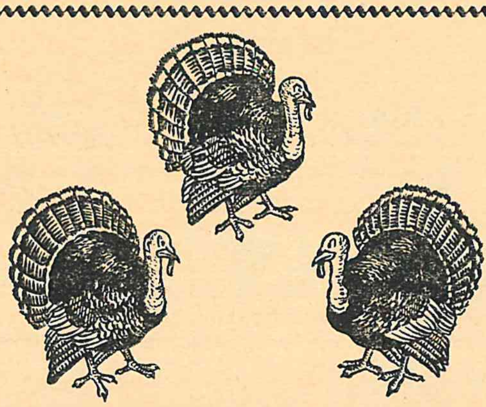


4 hens minus 2 hens are

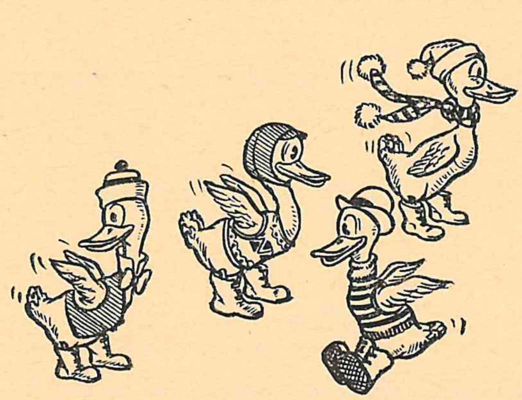
.... hens.

$$\begin{array}{r} 4 \\ 2 \\ \hline \end{array}$$

$4-2=$



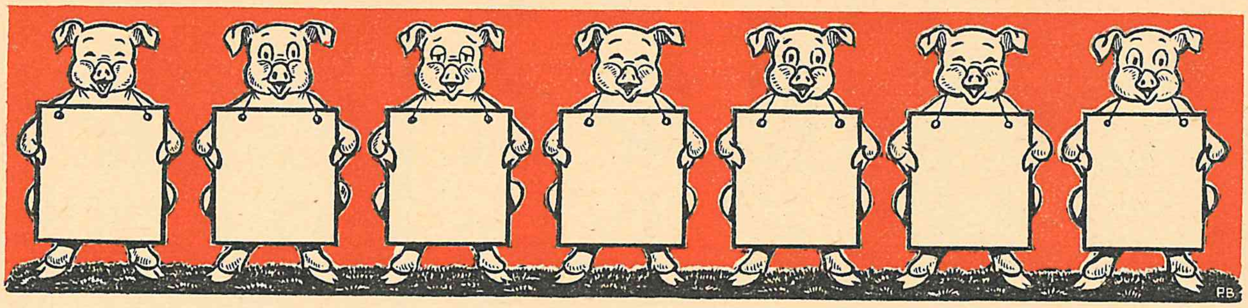
3 turkeys	3 turkeys
1 turkey	2 turkeys
.... turkeys	.... turkey
$3-1=$	$3-2=$



4 ducks	4 ducks
1 duck	3 ducks
.... ducks	.... duck
$4-1=$	$4-3=$

Check on Unit 3

Write the numbers in order on each pig.



$1+2=$	$3+1=$	$3+2=$	$4+1=$
$2+1=$	$1+3=$	$2+3=$	$1+4=$

$3-1=$	$4-3=$	$5-4=$	$5-3=$
$3-2=$	$4-1=$	$5-1=$	$5-2=$

Add

$$\begin{array}{r}1\\1\\\hline\end{array}\qquad\begin{array}{r}2\\2\\\hline\end{array}\qquad\begin{array}{r}3\\2\\\hline\end{array}$$

Subtract

$$\begin{array}{r}4\\2\\\hline\end{array}\qquad\begin{array}{r}5\\3\\\hline\end{array}\qquad\begin{array}{r}5\\1\\\hline\end{array}$$

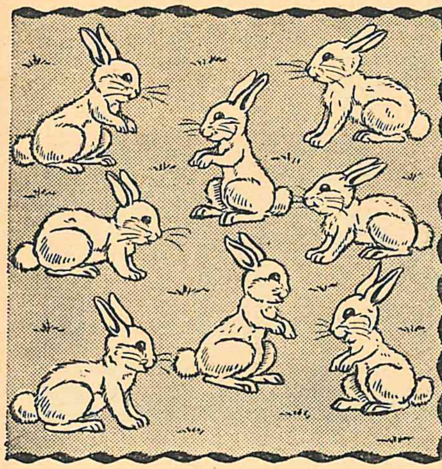
Write the number after each word.

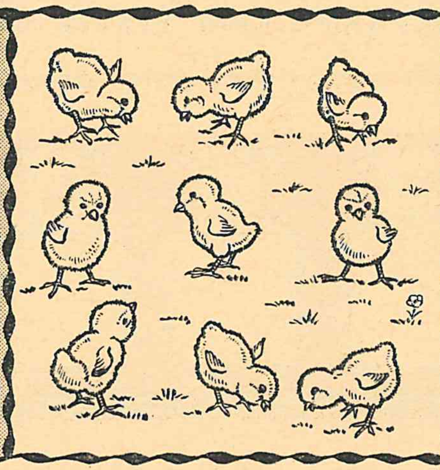
six .... one .... four .... two ....

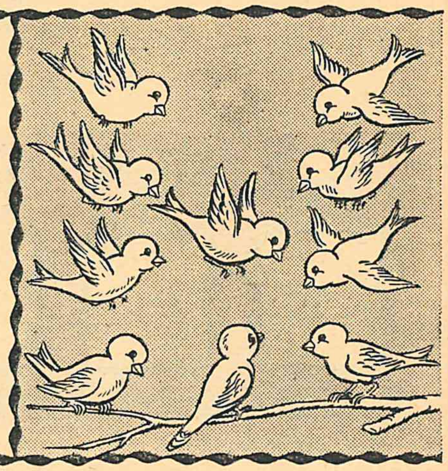
five .... seven .... three ....

Unit 4. Writing Numbers

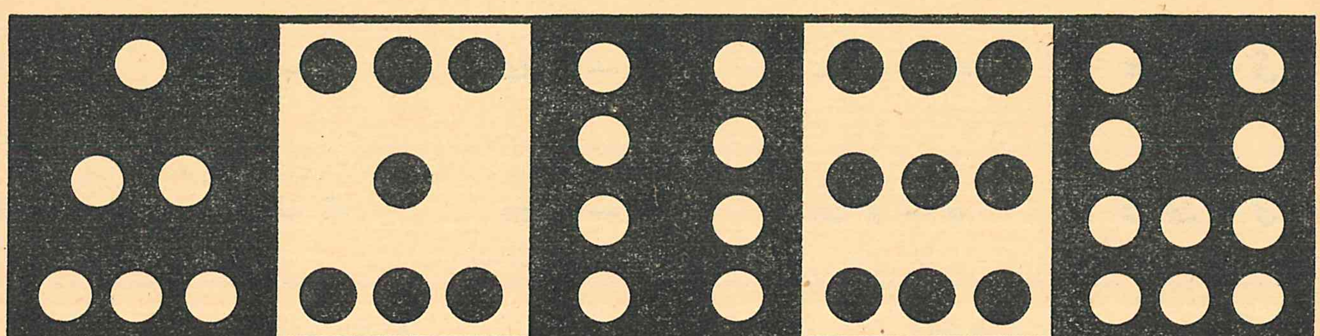
Write the correct number under each picture.







.... rabbits	.... chicks	...... birds
eight rabbits	nine chicks	ten birds

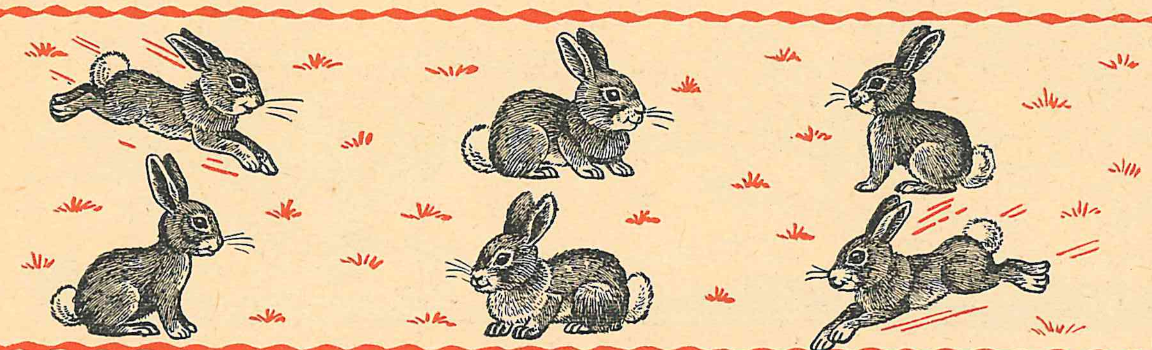


6	7	8	9	10

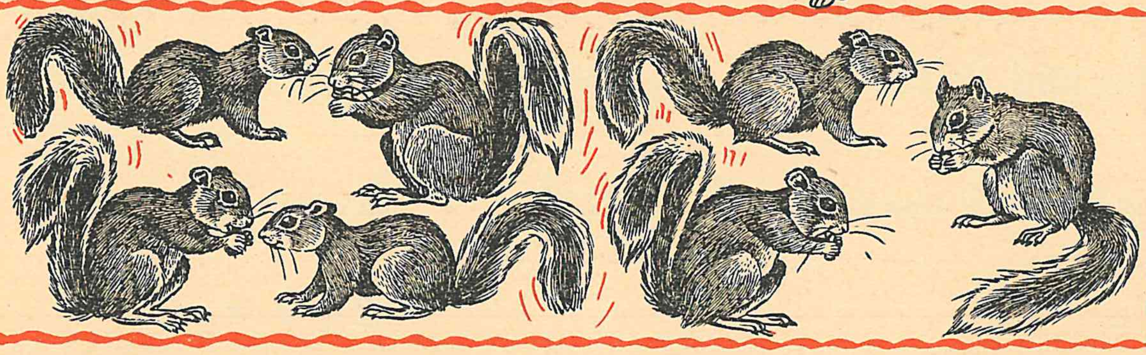
Note to Teacher: Add 8, 9, and 10 to the large wall chart. In working page 25, pupils may refer to the large wall chart.

Number Words

Draw a ring around the right number word for each picture.



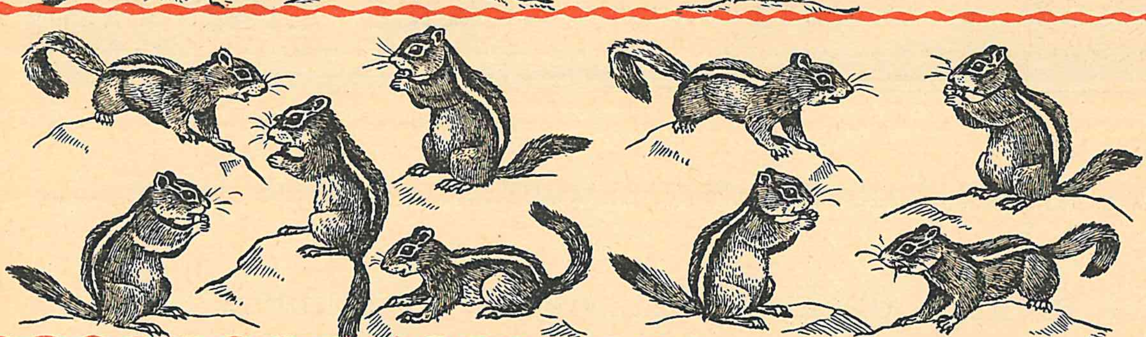
one
six
two



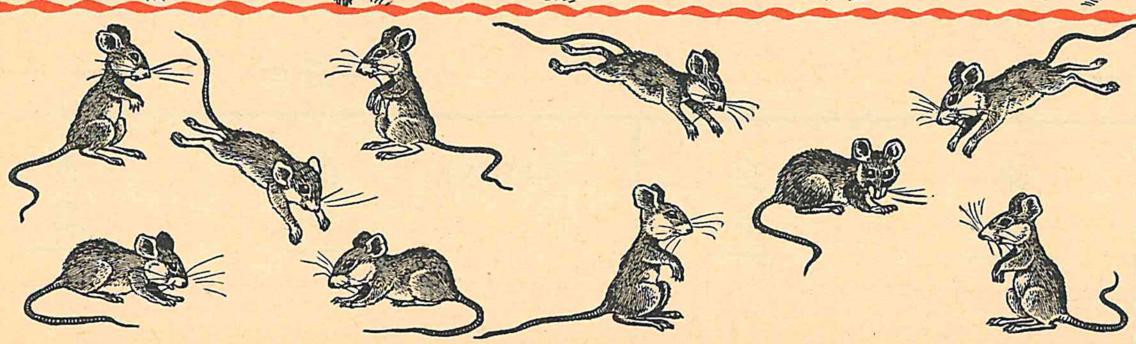
seven
three
ten



three
nine
eight

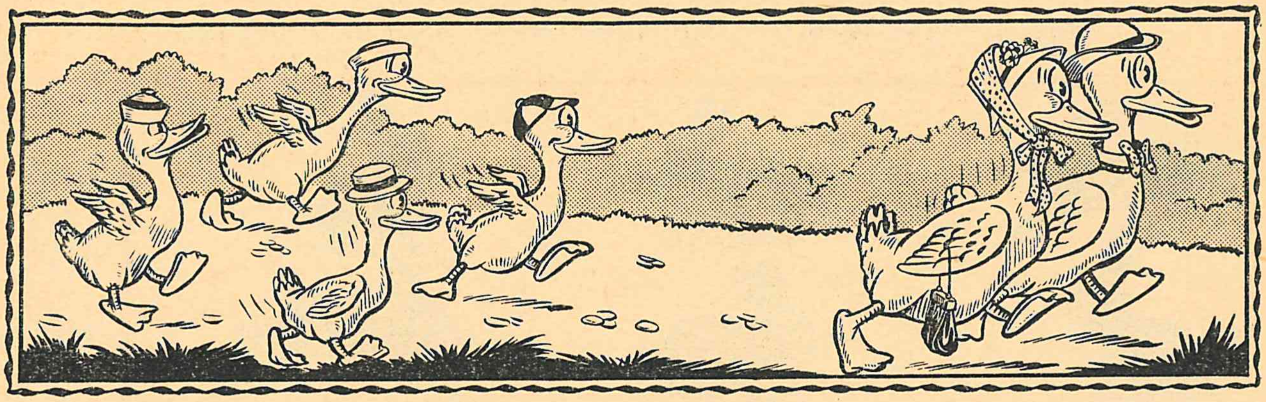


ten
nine
eight



ten
seven
three

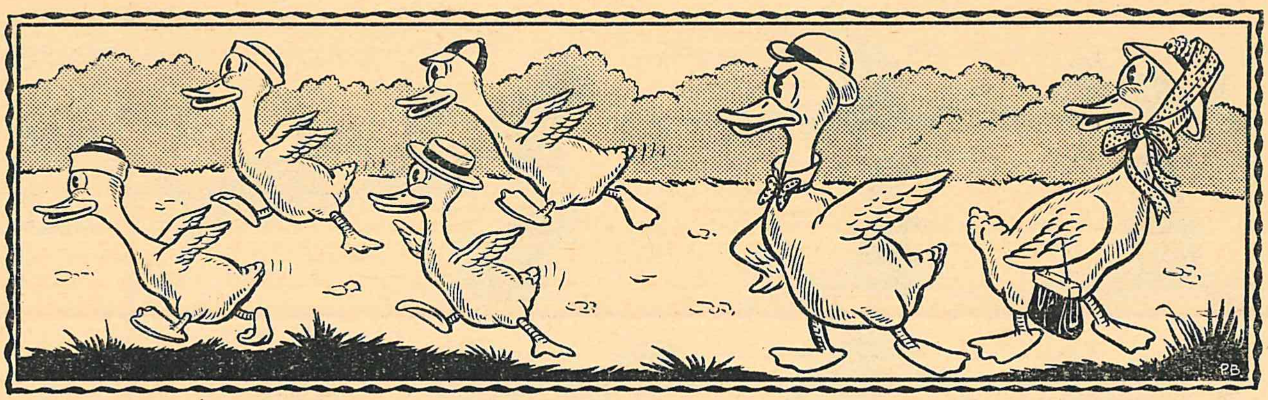
Stories About Six



4 ducks and 2 ducks are .... ducks. 4 and 2 are ....

2 ducks and 4 ducks are .... ducks. 2 and 4 are ....

$4+2=$ $2+4=$



6 ducks minus 4 ducks are .... ducks. 6 minus 4 are ....

6 ducks minus 2 ducks are .... ducks. 6 minus 2 are ....

$6-4=$ $6-2=$

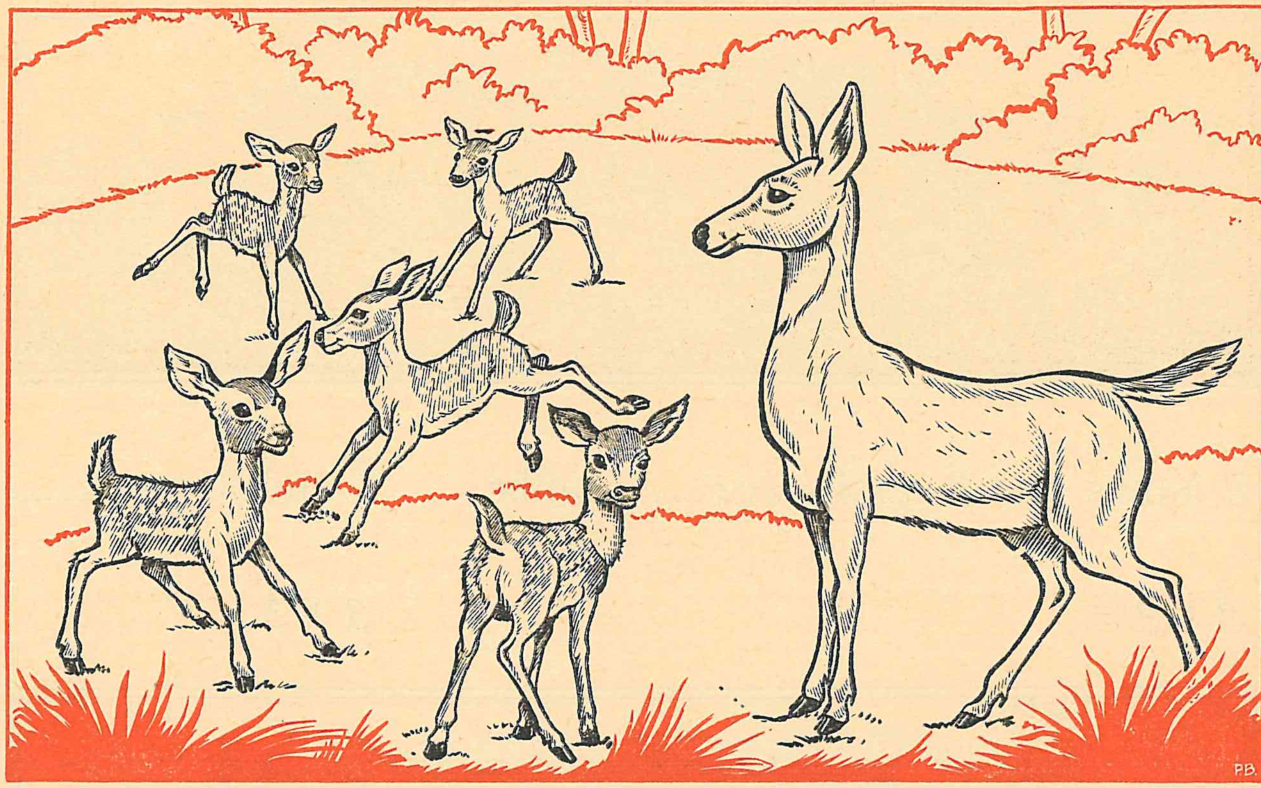
Add

$\begin{array}{r} 4 \\ 2 \\ \hline \end{array}$ $\begin{array}{r} 2 \\ 4 \\ \hline \end{array}$

Subtract

$\begin{array}{r} 6 \\ 4 \\ \hline \end{array}$ $\begin{array}{r} 6 \\ 2 \\ \hline \end{array}$

More Stories About Six



5 deer and 1 deer are .... deer. 5 and 1 are ....

1 deer and 5 deer are .... deer. 1 and 5 are ......

$5 + 1 =$ $1 + 5 =$

---

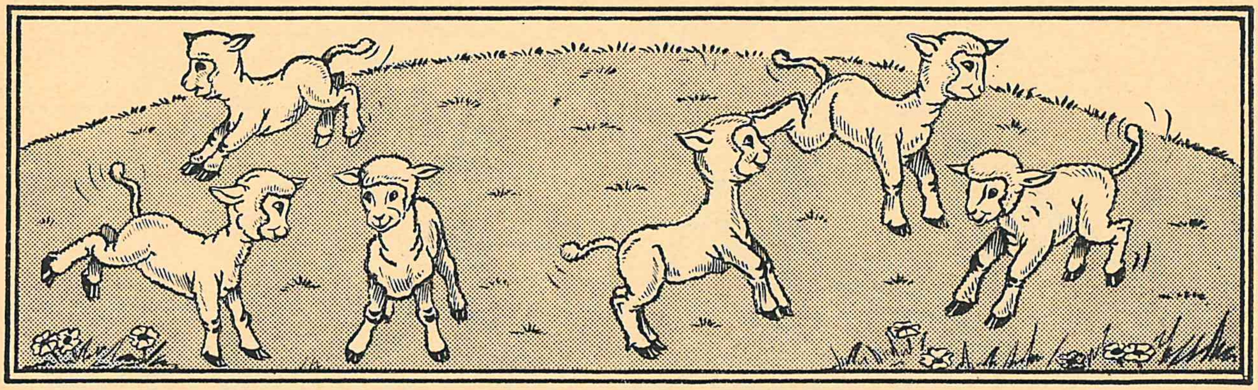
6 deer minus 5 deer is .... deer. 6 minus 5 is ....

6 deer minus 1 deer are .... deer. 6 minus 1 are ....

$6 - 5 =$ $6 - 1 =$

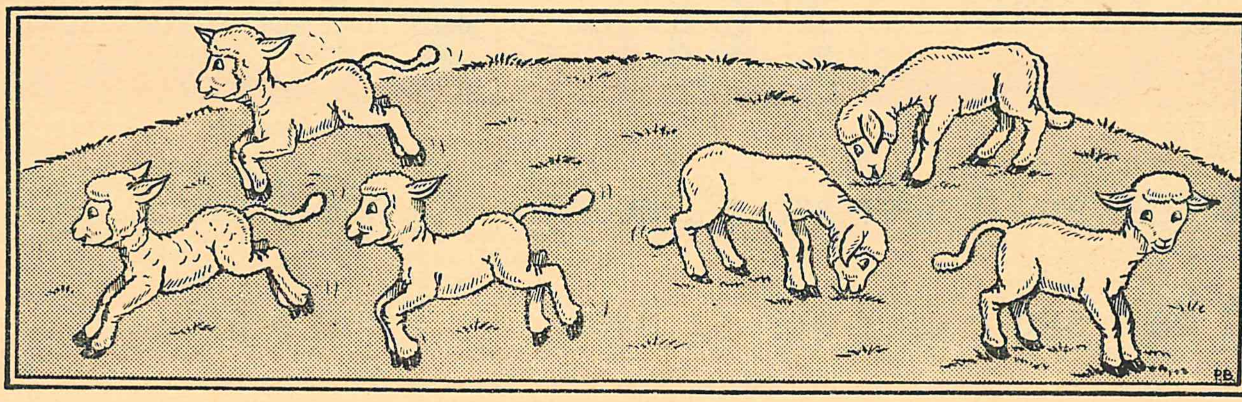
Add			Subtract		
	5	1		6	6
	1	5		1	5

More Stories About Six



3 lambs and 3 lambs are .... lambs. 3 and 3 are ....

$3 + 3 =$ $3 + 3 =$



6 lambs minus 3 lambs are .... lambs. 6 minus 3 are ....

$6 - 3 =$ $6 - 3 =$

$4 + 2 =$ $5 + 1 =$ $6 - 2 =$ $6 - 5 =$

Add

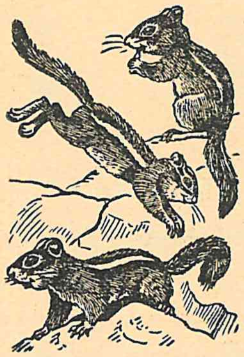
2	1	3
4	5	3

Subtract

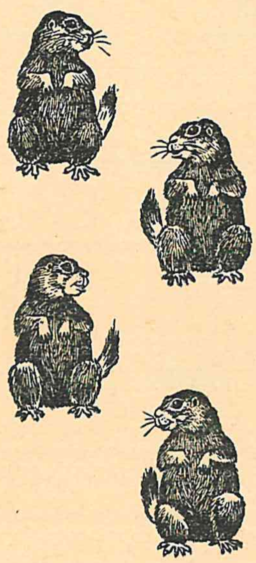
6	6	6
4	1	3

Review Number Stories

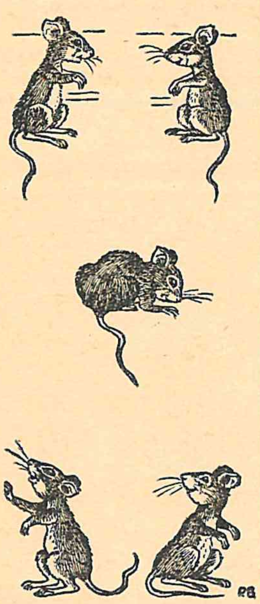
Use the pictures to find the answers.



Add		Subtract	
2 + 1 =	2 1 —	3 − 1 =	3 2 —
1 + 2 =		3 − 2 =	



Add		Subtract	
2 + 2 =	1 3 —	4 − 3 =	4 1 —
3 + 1 =		4 − 1 =	
1 + 3 =	2 2 —	4 − 2 =	4 3 —



Add		Subtract	
2 + 3 =	4 1 —	5 − 3 =	5 4 —
3 + 2 =		5 − 4 =	
4 + 1 =	2 3 —	5 − 1 =	5 2 —
1 + 4 =		5 − 2 =	

Check on Unit 4

Add

$5 + 1 =$ $4 + 2 =$

3	1	4
3	5	2

$1 + 5 =$ $2 + 4 =$

Subtract

$6 - 5 =$ $6 - 3 =$

6	6	6
2	5	3

$6 - 1 =$ $6 - 4 =$

Write the correct number after each word.

ten .... five .... two .... four ....

eight .... nine .... six .... one ....

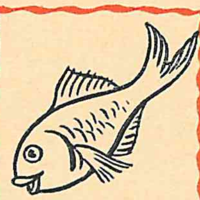
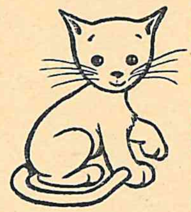
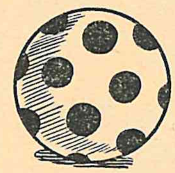
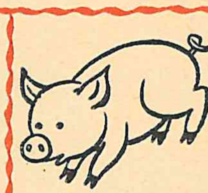
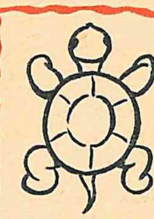
three .... seven ....

Write the missing numbers.

1	2	....	4	....	6	....	8
2	3	....	5	....	7	....	9
3	4	....	6	....	8	....	10

Unit 5

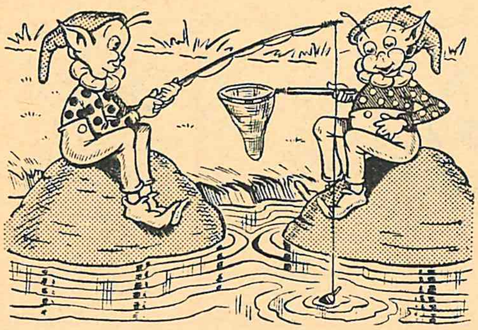
Count and Draw

 dog	 fish	 cat	 ball	 pig	 turtle

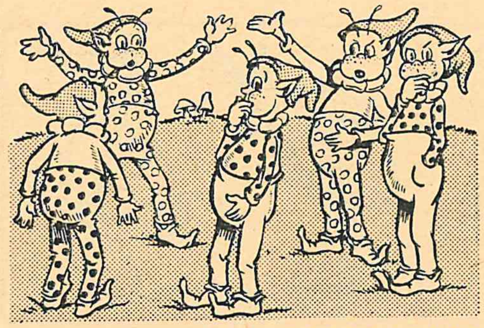
Draw 9 turtles.	Draw 6 cats.
Draw 10 balls.	Draw 7 pigs.
Draw 8 fish.	Draw 5 dogs.

Number Words

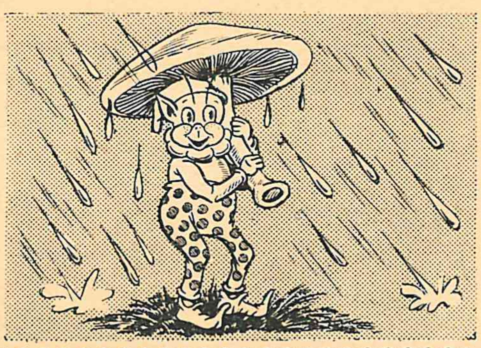
Draw a ring around the right number word for each picture.



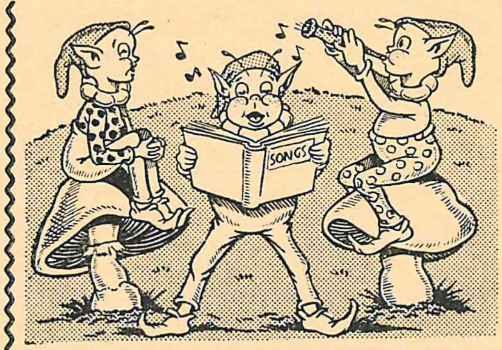
two
three
one



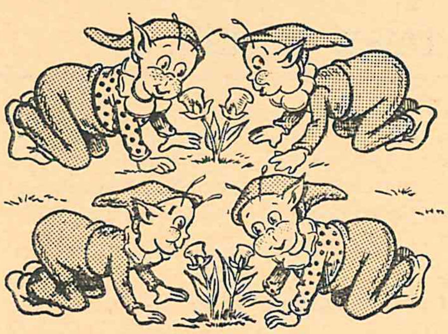
six
five
ten



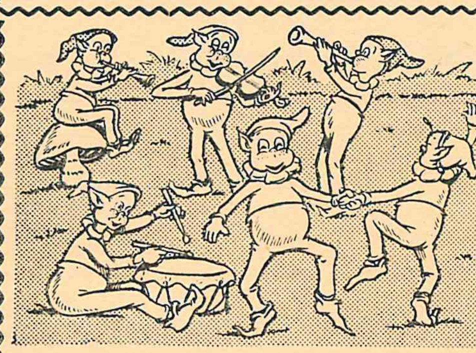
four
one
five



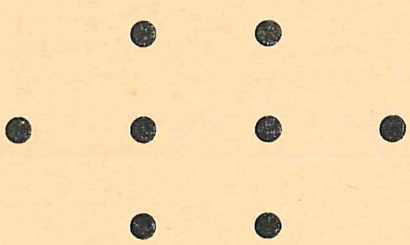
eight
seven
three



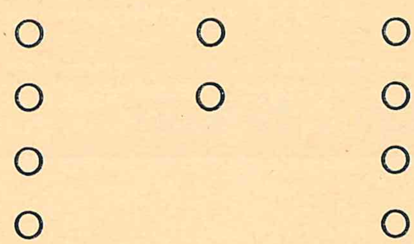
four
two
five



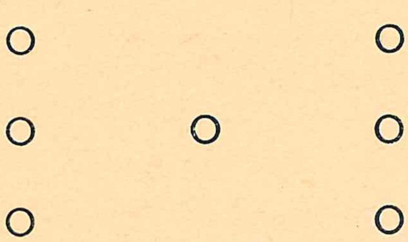
nine
six
eight



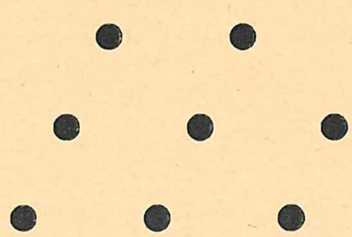
five
one
eight



six
ten
four

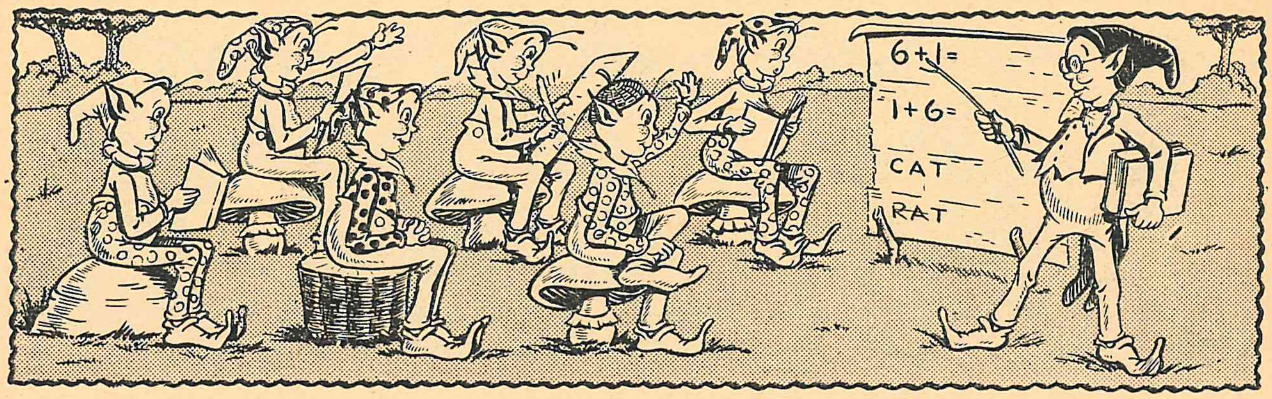


two
seven
five



three
ten
nine

Stories About Seven



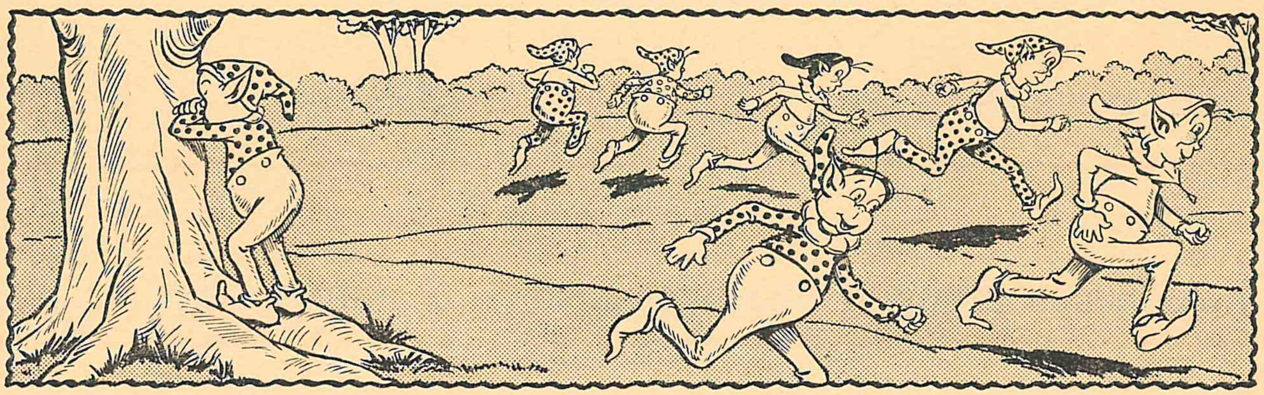
6 brownies and 1 brownie are .... brownies.

$6 + 1 =$

6 and 1 are ....

1 and 6 are ....

$1 + 6 =$



7 brownies minus 1 brownie are .... brownies.

$7 - 1 =$

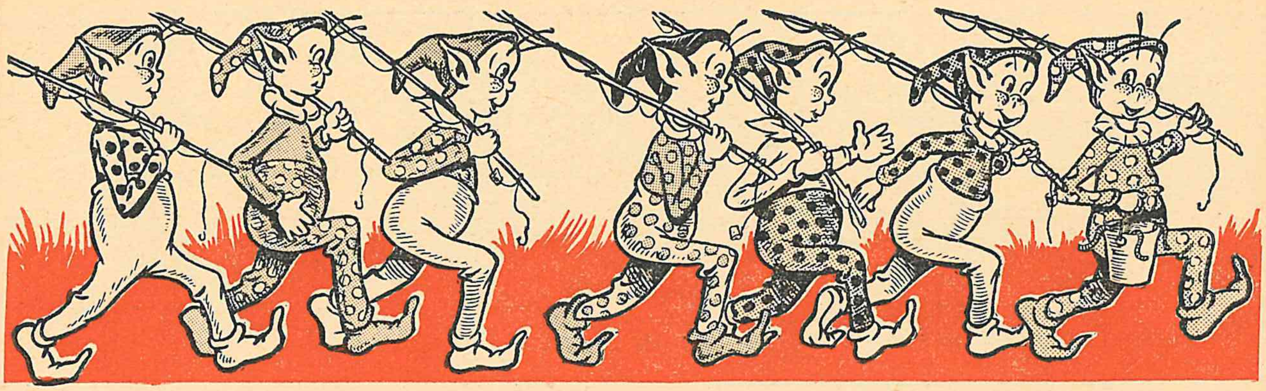
7 minus 1 are ....

7 minus 6 is ....

$7 - 6 =$

Add			Subtract		
$1 + 6 =$	$\begin{array}{r}1\\6\\\hline\end{array}$	$\begin{array}{r}6\\1\\\hline\end{array}$	$7 - 1 =$	$\begin{array}{r}7\\6\\\hline\end{array}$	$\begin{array}{r}7\\1\\\hline\end{array}$
$6 + 1 =$			$7 - 6 =$		

More Stories About Seven



4 brownies and 3 brownies are

.... brownies.

3 brownies and 4 brownies are

.... brownies.

4 and 3 are ....

3 and 4 are ....

$4 + 3 =$

$3 + 4 =$

7 brownies minus 4 brownies are

.... brownies.

7 brownies minus 3 brownies are

.... brownies.

7 minus 4 are ....

7 minus 3 are ....

$7 - 4 =$

$7 - 3 =$

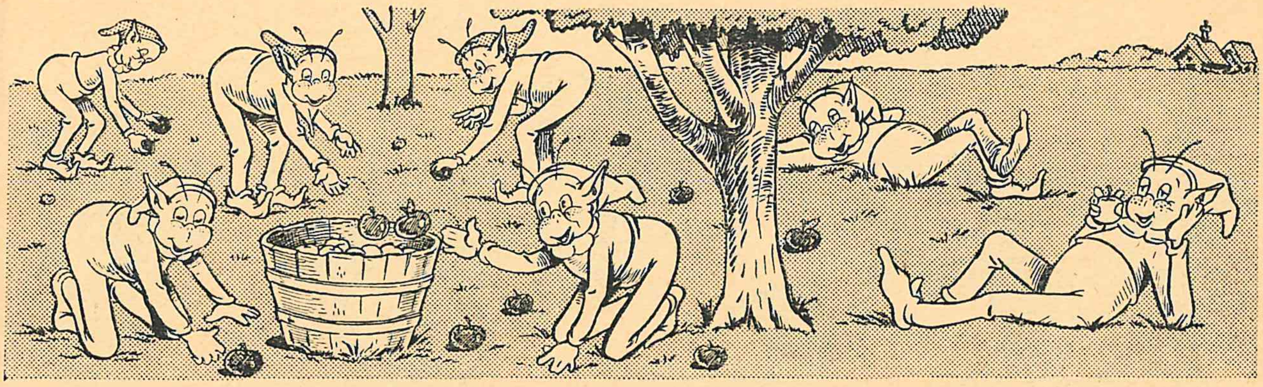
Add

4	3	6	1
3	4	1	6

Subtract

7	7	7	7
4	3	1	6

More Stories About Seven



5 brownies and 2 brownies are .... brownies.

2 brownies and 5 brownies are .... brownies.

5 and 2 are ....

2 and 5 are ....

$5 + 2 =$

$2 + 5 =$

7 brownies minus 5 brownies are .... brownies.

7 brownies minus 2 brownies are .... brownies.

7 minus 5 are ....

7 minus 2 are ....

$7 - 5 =$

$7 - 2 =$

Add

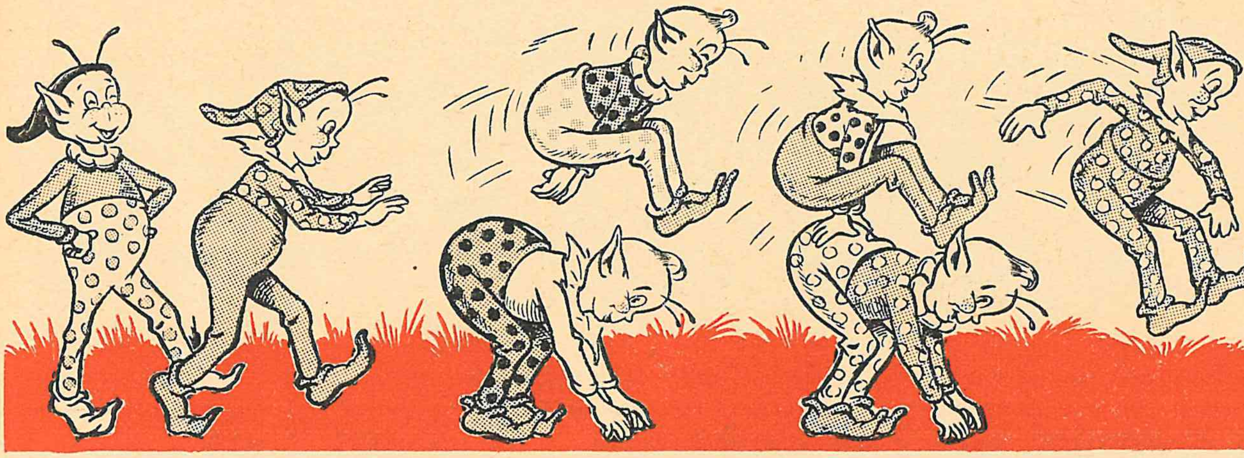
2	4	5	3
5	3	2	4

Subtract

7	7	7	7
5	3	2	4

The Whole Story About Seven

Use the picture to find the answers.



$3 + 4 =$ $\qquad$ $6 + 1 =$ $\qquad$ $4 + 3 =$

$2 + 5 =$ $\qquad$ $5 + 2 =$ $\qquad$ $1 + 6 =$

$7 - 3 =$ $\qquad$ $7 - 1 =$ $\qquad$ $7 - 4 =$

$7 - 6 =$ $\qquad$ $7 - 5 =$ $\qquad$ $7 - 2 =$

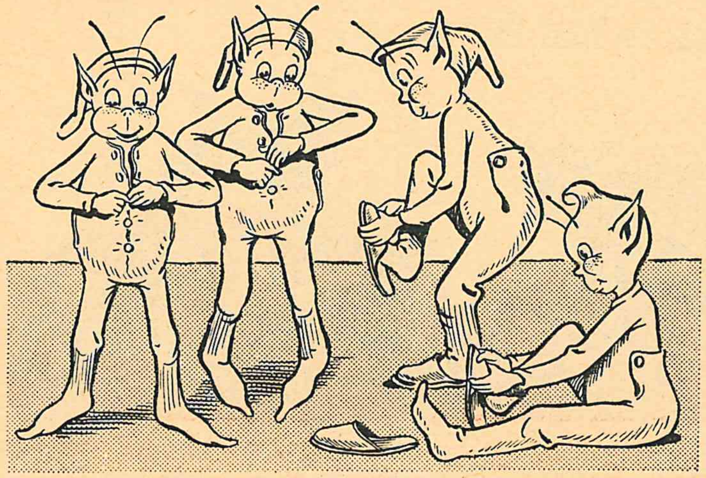
Add

6 1	2 5	3 4
4 3	1 6	5 2

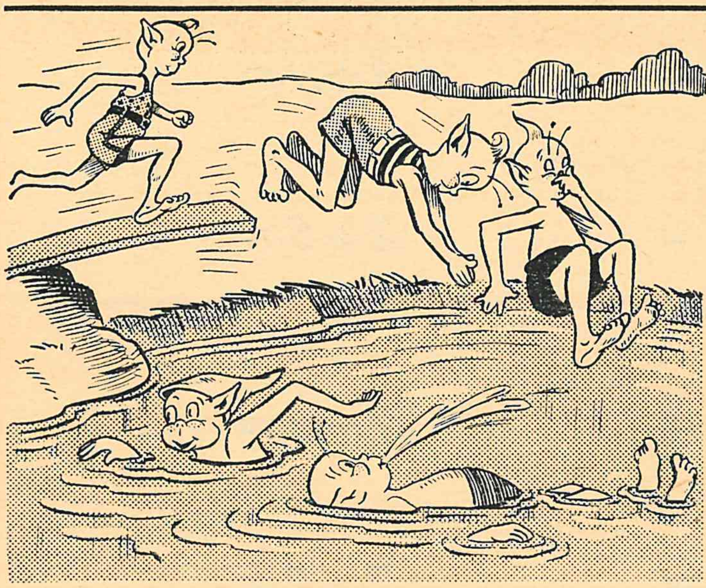
Subtract

7 6	7 3	7 4
7 1	7 5	7 2

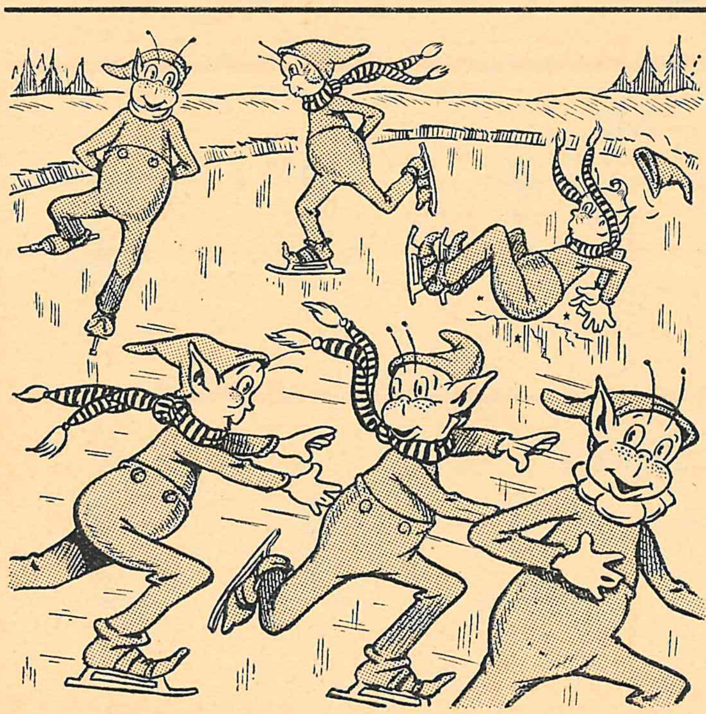
Review Number Stories



2 + 2 =	4 − 2 =
3 + 1 =	4 − 3 =
1 + 3 =	4 − 1 =



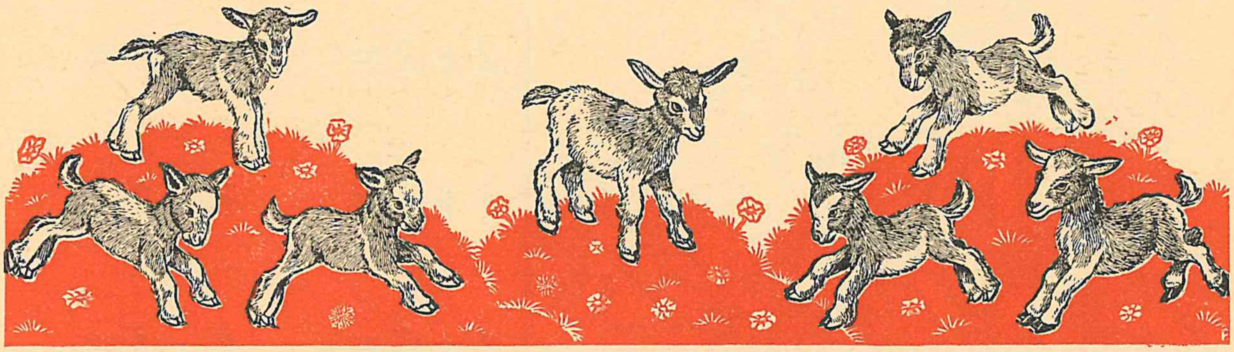
2 + 3 =	5 − 3 =
4 + 1 =	5 − 4 =
3 + 2 =	5 − 2 =
1 + 4 =	5 − 1 =



3 + 3 =	6 − 3 =
5 + 1 =	6 − 5 =
4 + 2 =	6 − 2 =
1 + 5 =	6 − 4 =
2 + 4 =	6 − 1 =

Check on Unit 5

Use the picture to find the answers.



$1+6=$ $5+2=$ $3+4=$

$4+3=$ $6+1=$ $2+5=$

$7-6=$ $7-1=$ $7-3=$

$7-4=$ $7-5=$ $7-2=$

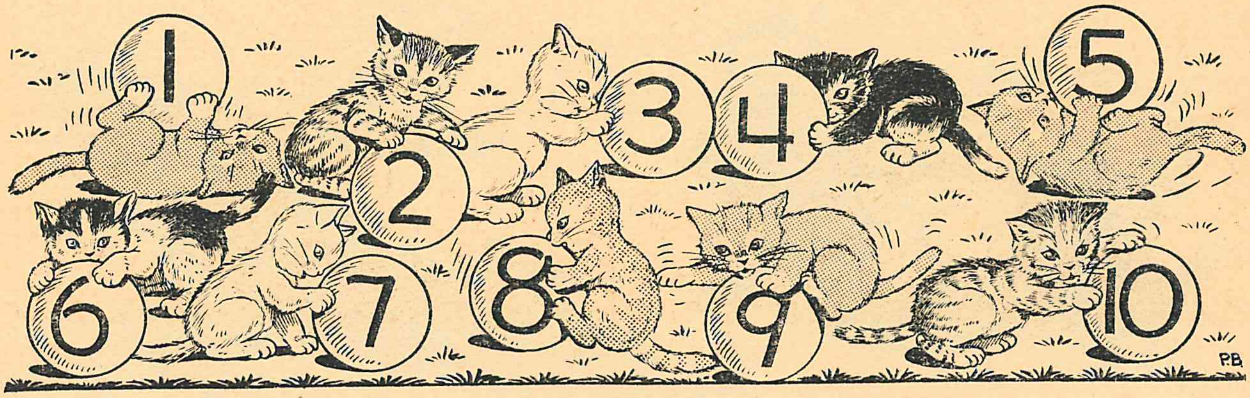
Add

3	5	1	4	2	6
4	2	6	3	5	1

Subtract

7	7	7	7	7	7
6	3	2	1	4	5

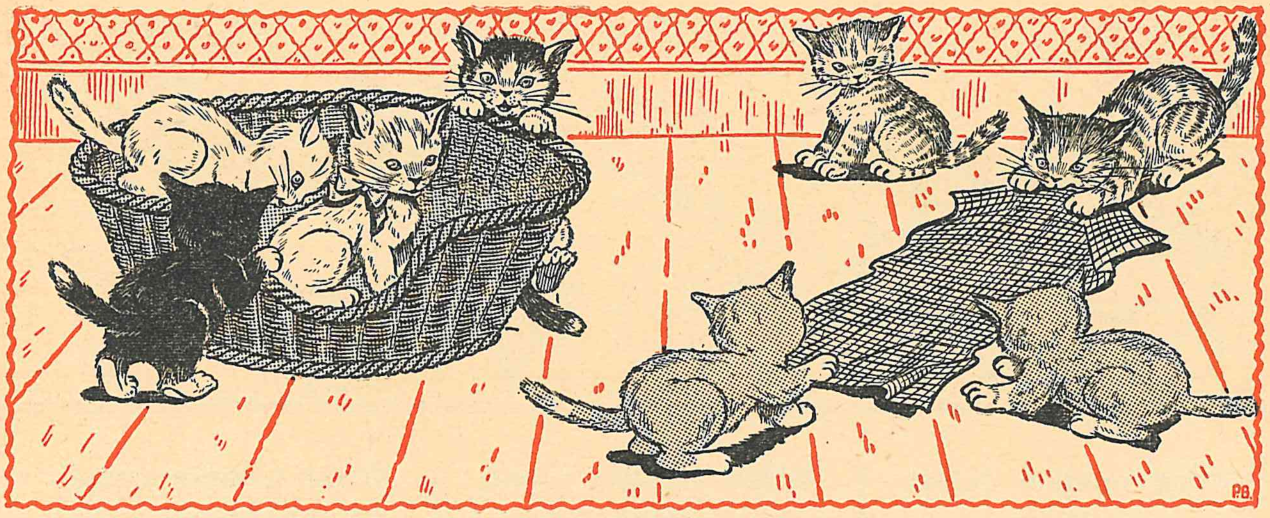
Write Missing Numbers



What number comes before:		What number comes after:		What number comes between:
.... 5	 3	9	4	5 7
.... 8	 6	6	2	8 10
.... 9	 4	8	3	1 3
.... 7	 10	1	5	7 9
.... 2	 8	7	2	4 6
.... 4	 5	4	9	3 5
.... 10	 2	5	1	2 4
.... 6	 9	3	7	6 8
.... 3	 7	6	8	8 10
.... 8	 4	2	6	4 6

Stories About Eight

Use the picture to find the answers.



4 kittens and 4 kittens are

.... kittens.

4 and 4 are .... $4+4=$

Take away 4 kittens.

8 minus 4 are ....

$8-4=$

7 kittens and 1 kitten are

.... kittens.

7 and 1 are .... $7+1=$

Take away 7 kittens.

8 minus 7 is ....

$8-7=$

1 kitten and 7 kittens are

.... kittens.

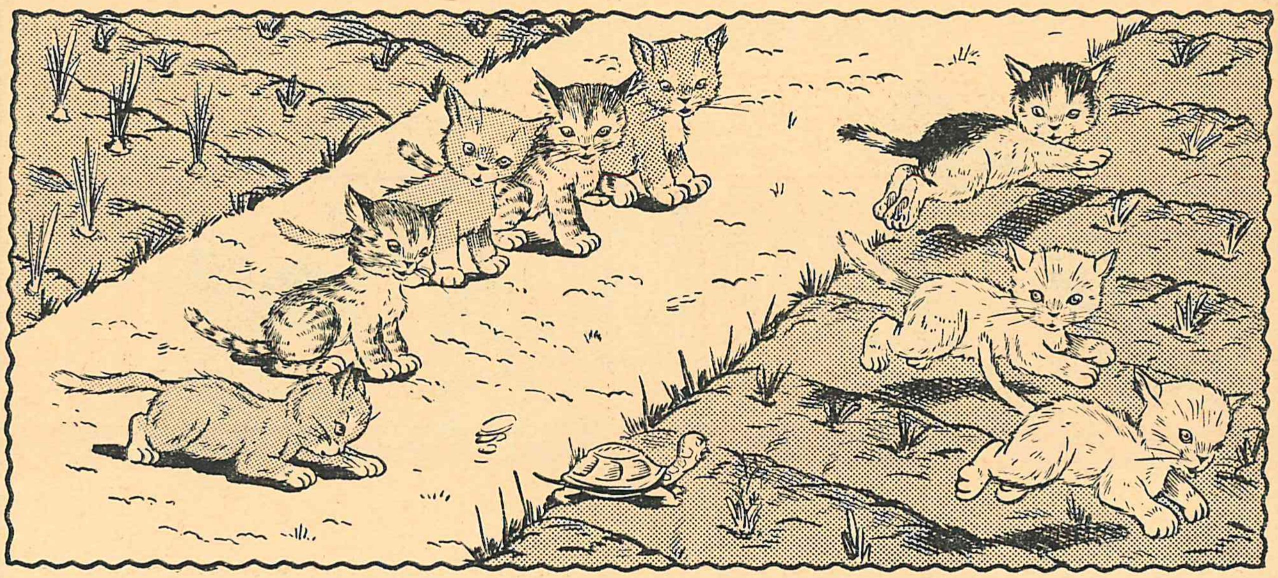
1 and 7 are .... $1+7=$

Take away 1 kitten.

8 minus 1 are ....

$8-1=$

More Stories About Eight



Kittens on the path .... Kittens in all ....

Kittens running .... Kittens on the path ....

5 and 3 are .... Take away 5 kittens.

$5 + 3 =$ 8 minus 5 are .... $8 - 5 =$

Kittens running .... Kittens in all ....

Kittens on the path .... Kittens running ....

3 and 5 are .... Take away 3 kittens.

$3 + 5 =$ 8 minus 3 are .... $8 - 3 =$

Add

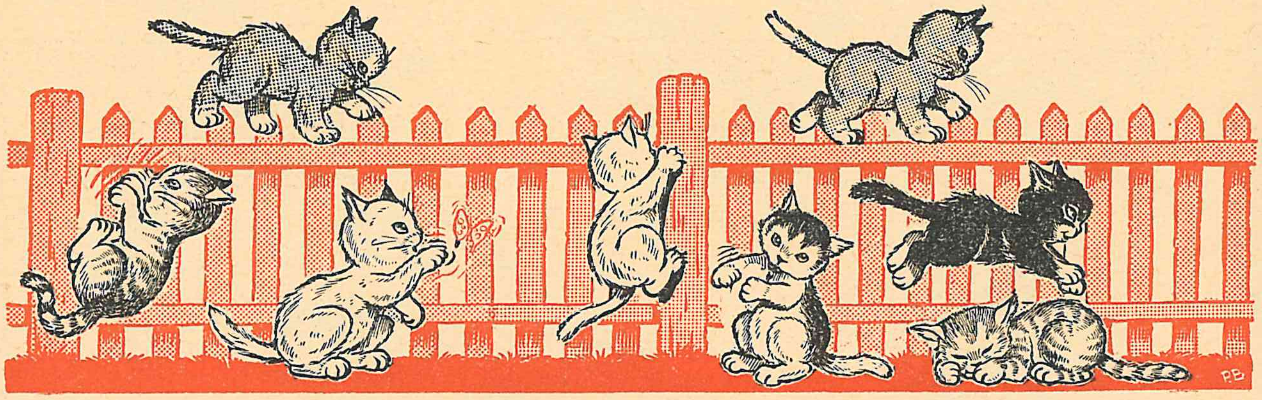
3	4	7
5	4	1

Subtract

8	8	8
5	7	4

More Stories About Eight

Use the picture to find the answers.



6 kittens and 2 kittens are

.... kittens.

2 kittens and 6 kittens are

.... kittens.

6 and 2 are ....

2 and 6 are ....

$6+2=$

$2+6=$

8 kittens minus 2 kittens are

.... kittens.

8 kittens minus 6 kittens are

.... kittens.

8 minus 2 are ....

8 minus 6 are ....

$8-2=$

$8-6=$

Add

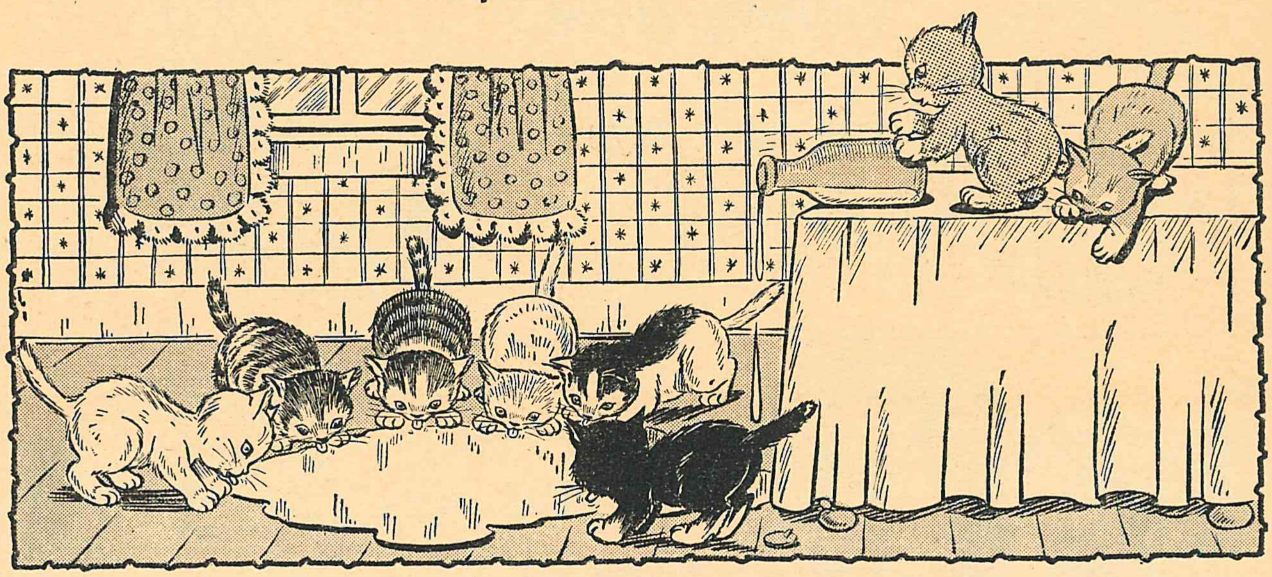
4	1	6	2
4	7	2	6

Subtract

8	8	8	8
5	2	3	6

The Whole Story About Eight

Use the picture to find the answers.



$4+4=$ $1+7=$ $6+2=$ $5+3=$

$7+1=$ $6+2=$ $3+5=$ $2+6=$

$8-4=$ $8-3=$ $8-5=$ $8-2=$

$8-7=$ $8-1=$ $8-3=$ $8-6=$

Add

$$\begin{array}{r}4\\ \underline{4}\end{array} \quad \begin{array}{r}2\\ \underline{6}\end{array} \quad \begin{array}{r}7\\ \underline{1}\end{array}$$

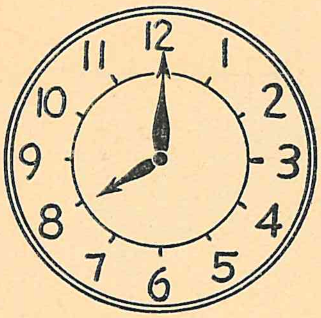
$$\begin{array}{r}6\\ \underline{2}\end{array} \quad \begin{array}{r}1\\ \underline{7}\end{array} \quad \begin{array}{r}5\\ \underline{3}\end{array}$$

Subtract

$$\begin{array}{r}8\\ \underline{4}\end{array} \quad \begin{array}{r}8\\ \underline{5}\end{array} \quad \begin{array}{r}8\\ \underline{3}\end{array}$$

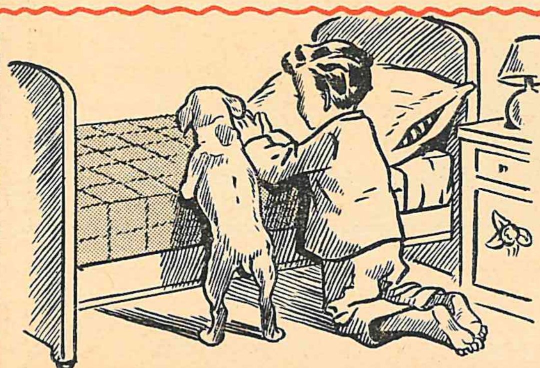
$$\begin{array}{r}8\\ \underline{1}\end{array} \quad \begin{array}{r}8\\ \underline{2}\end{array} \quad \begin{array}{r}8\\ \underline{6}\end{array}$$

Telling Time

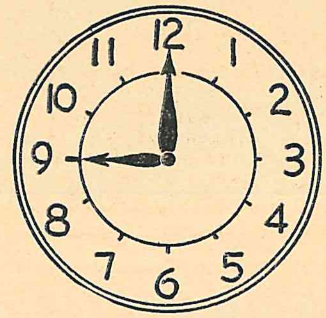


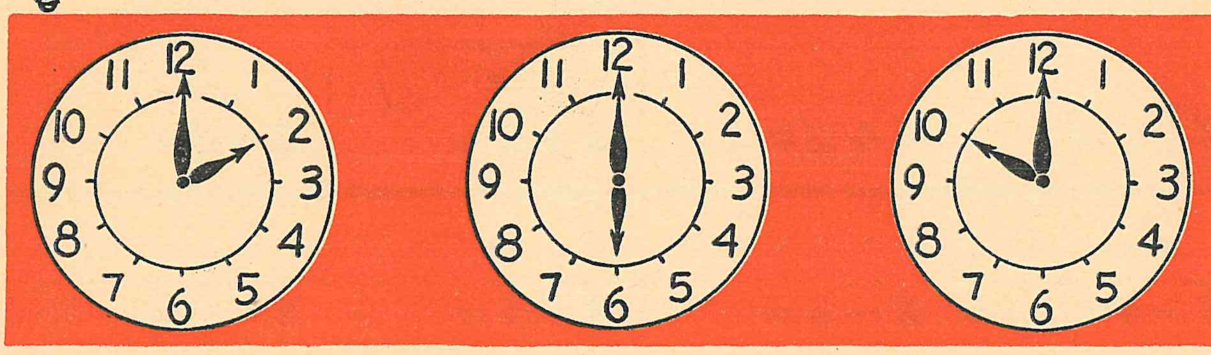
This clock says
8 o'clock.



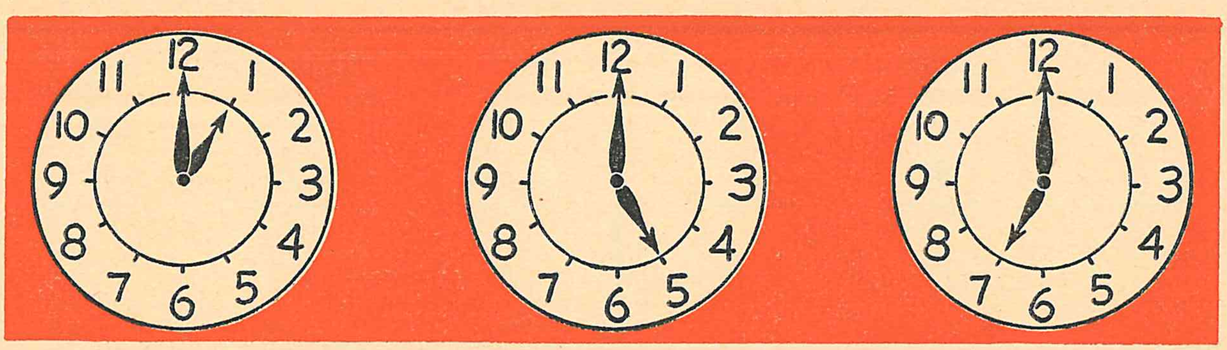


This clock says
9 o'clock.





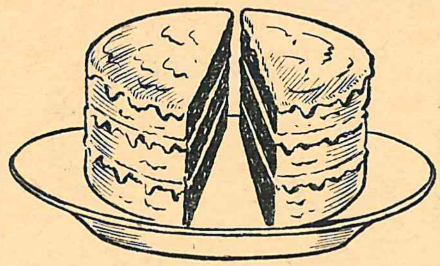
-------- o'clock -------- o'clock -------- o'clock



-------- o'clock -------- o'clock -------- o'clock

Note to Teacher: Children should have many opportunities to tell time in connection with school activities. A cardboard clock with movable hands can be used to indicate recess time, lunch time, dismissal time, et cetera.

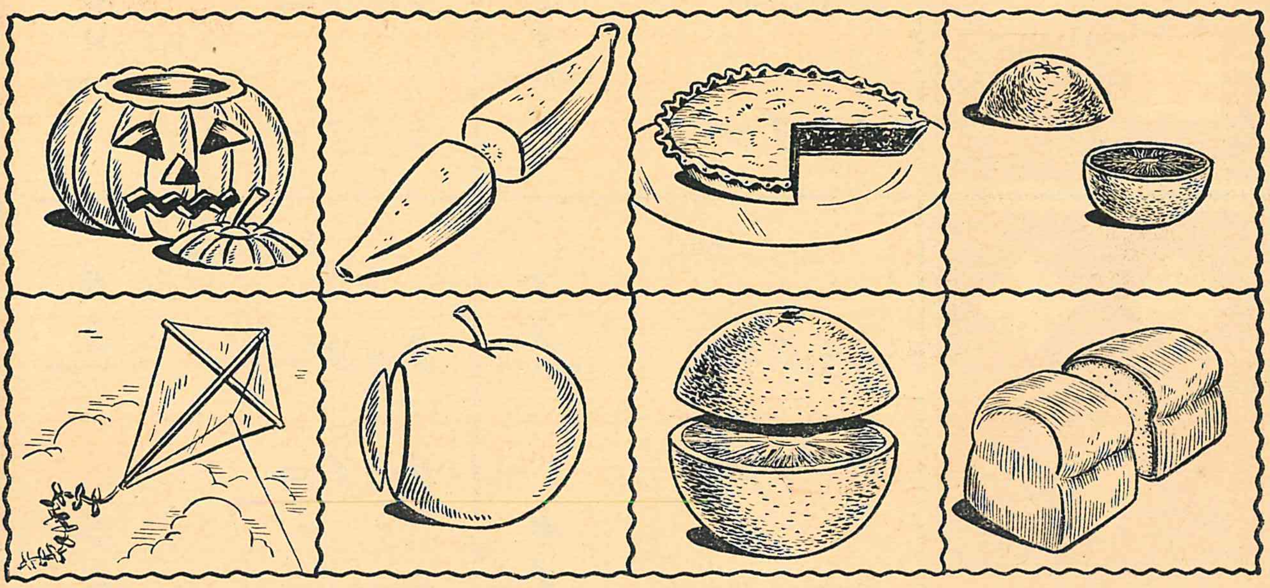
Teach the children to discriminate between the long and short hands and the significance of each. Many children will learn to read the half hour as well as the hour, although the former is not presented in this book.



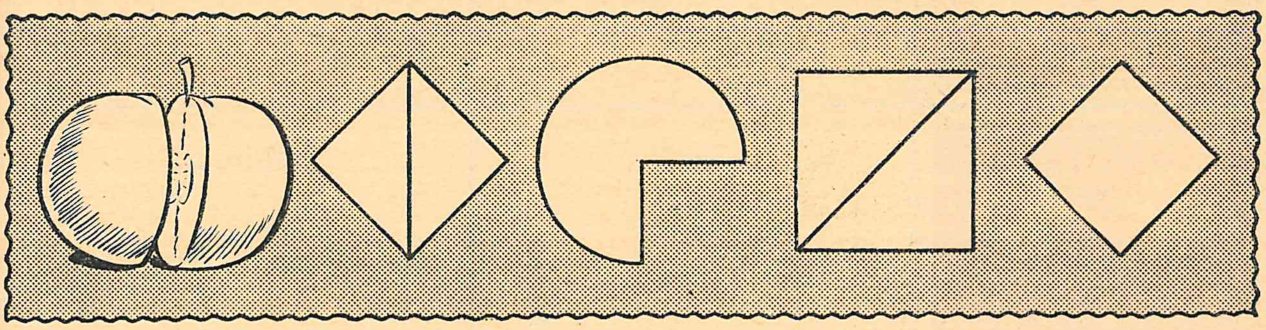
One Half

The cake is cut into halves.
Both halves are the same size.
2 halves make a whole.

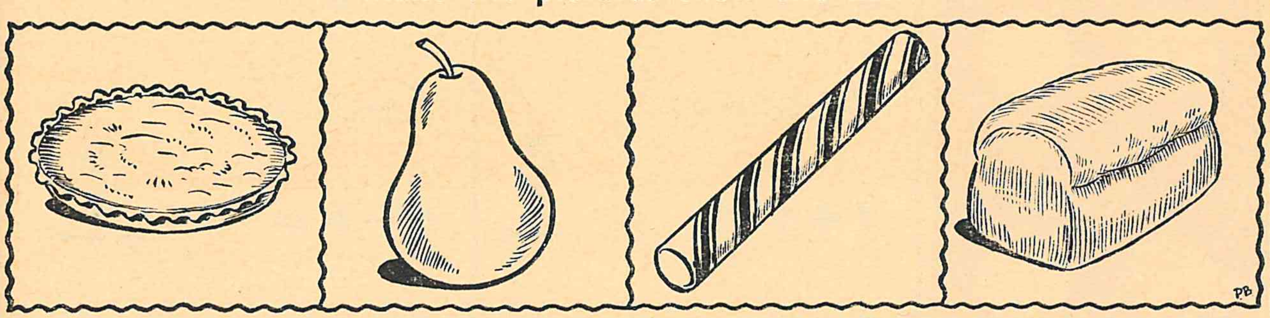
Put an X on each of the things that are cut into halves.



Color the pictures that show one half.



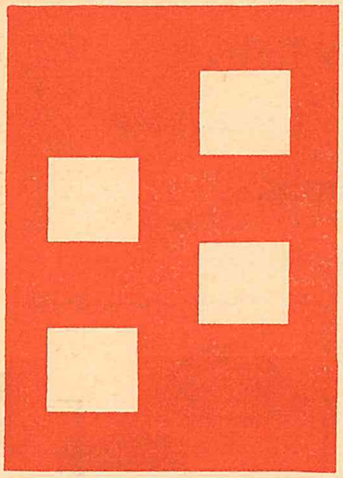
Make the pictures show one half.



NOTE TO TEACHER: Before the children begin work on this page, develop the meaning of one half as applied to single objects. Use concrete materials. Cut an orange or apple into two equal pieces or halves. Pupils may fold large pieces of paper into two equal parts. Draw objects on the blackboard for the children to divide into halves. Then they may draw squares, circles, and rectangles and divide them into halves.

Review Number Stories

Use the pictures to find the answers.



Add

$3 + 1 =$

$2 + 2 =$

$1 + 3 =$

$\begin{array}{r}2\\2\\\hline\end{array}$

$\begin{array}{r}3\\1\\\hline\end{array}$

Subtract

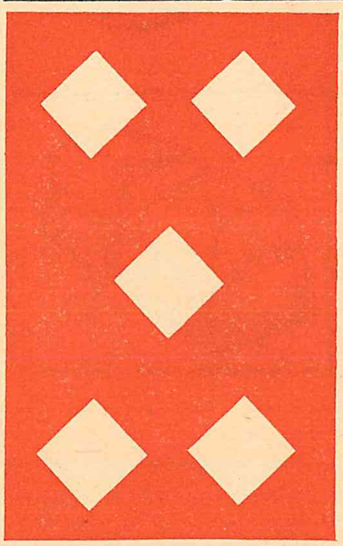
$4 - 2 =$

$4 - 3 =$

$4 - 1 =$

$\begin{array}{r}4\\3\\\hline\end{array}$

$\begin{array}{r}4\\1\\\hline\end{array}$



Add

$2 + 3 =$

$4 + 1 =$

$3 + 2 =$

$1 + 4 =$

$\begin{array}{r}3\\2\\\hline\end{array}$

$\begin{array}{r}4\\1\\\hline\end{array}$

Subtract

$5 - 3 =$

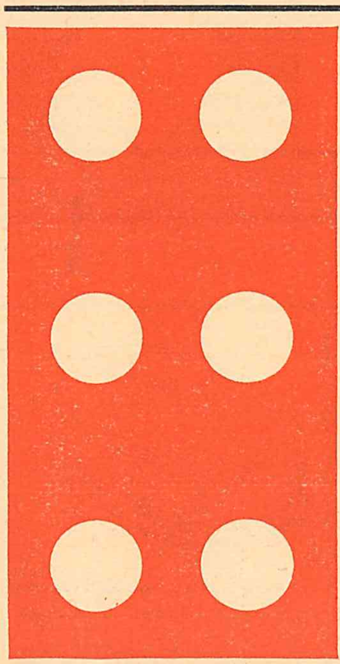
$5 - 1 =$

$5 - 2 =$

$5 - 4 =$

$\begin{array}{r}5\\3\\\hline\end{array}$

$\begin{array}{r}5\\4\\\hline\end{array}$



Add

$3 + 3 =$

$5 + 1 =$

$4 + 2 =$

$1 + 5 =$

$2 + 4 =$

$\begin{array}{r}4\\2\\\hline\end{array}$

$\begin{array}{r}3\\3\\\hline\end{array}$

Subtract

$6 - 3 =$

$6 - 5 =$

$6 - 2 =$

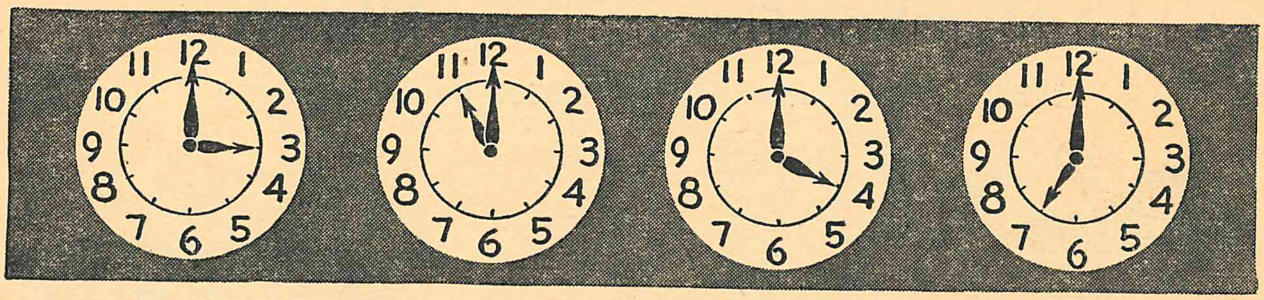
$6 - 4 =$

$6 - 1 =$

$\begin{array}{r}6\\4\\\hline\end{array}$

$\begin{array}{r}6\\1\\\hline\end{array}$

Check on Unit 6



.... o'clock .... o'clock .... o'clock .... o'clock

4 + 4 = 7 + 1 = 5 + 3 = 6 + 2 =

3 + 5 = 2 + 6 = 1 + 7 = 5 + 3 =

8 − 4 = 8 − 7 = 8 − 1 = 8 − 3 =

8 − 6 = 8 − 2 = 8 − 5 = 8 − 4 =

Add

6	5	7
2	3	1

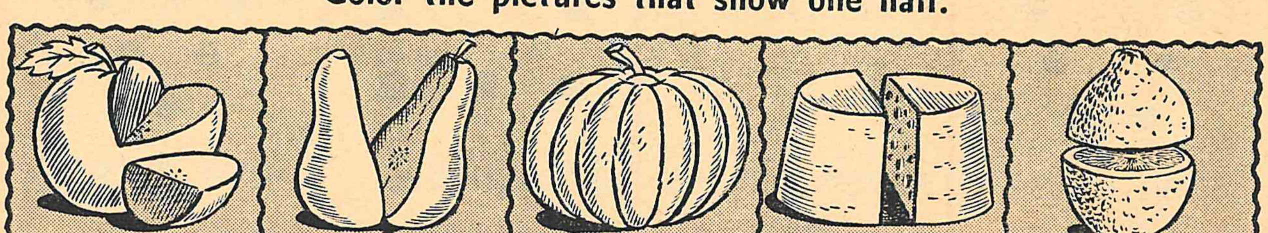
3	4	2
5	4	6

Subtract

8	8	8
5	3	7

8	8	8
4	1	2

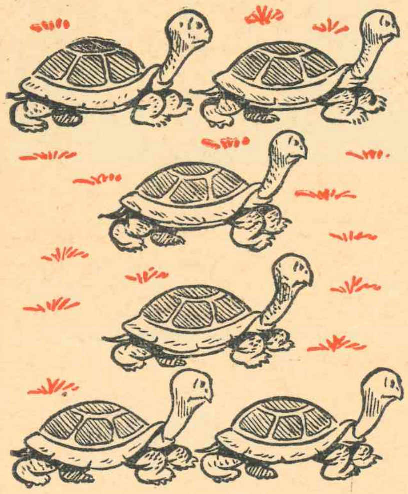
Color the pictures that show one half.



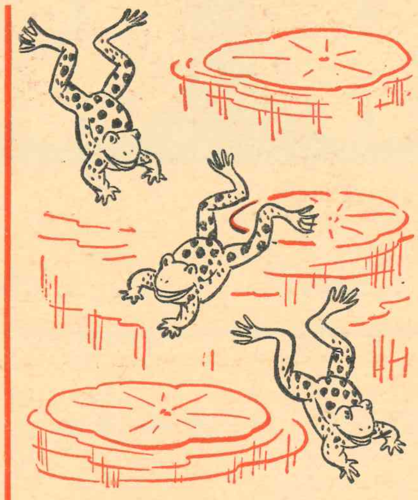
Unit 7

Number Groups and Words

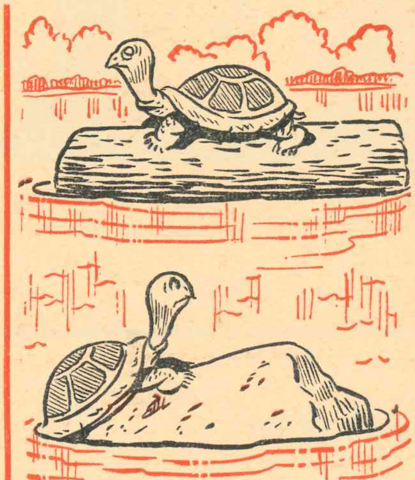
Draw a ring around the right phrase for each picture.



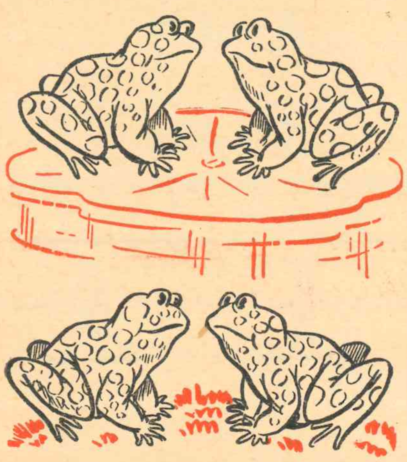
six turtles
four turtles



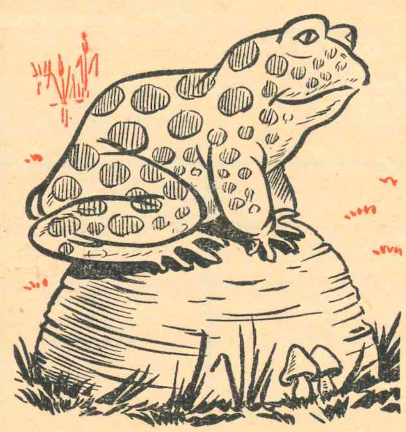
two frogs
three frogs



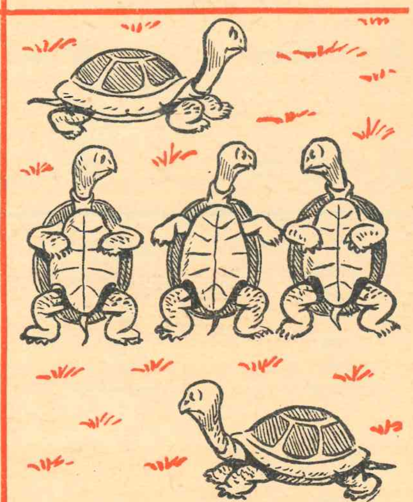
five turtles
two turtles



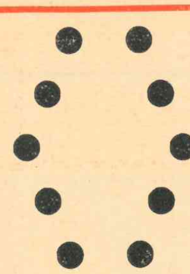
four frogs
six frogs



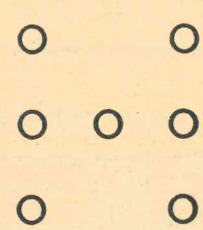
two frogs
one frog



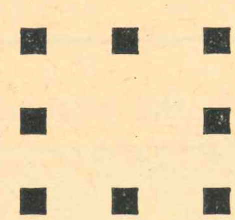
five turtles
nine turtles



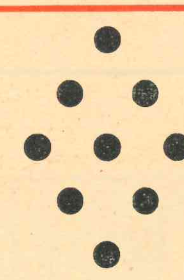
ten dots
nine dots



seven circles
five circles



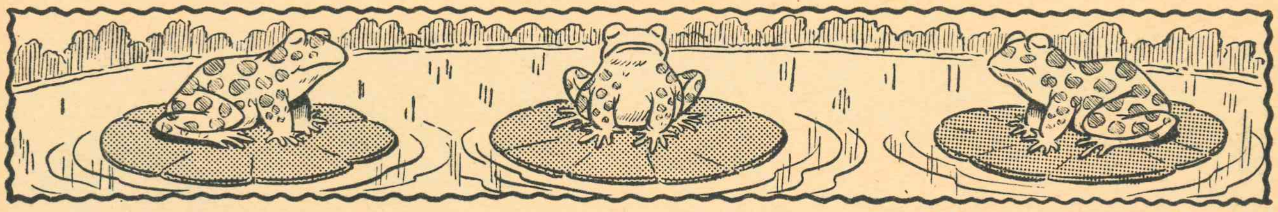
six squares
eight squares



five dots
nine dots

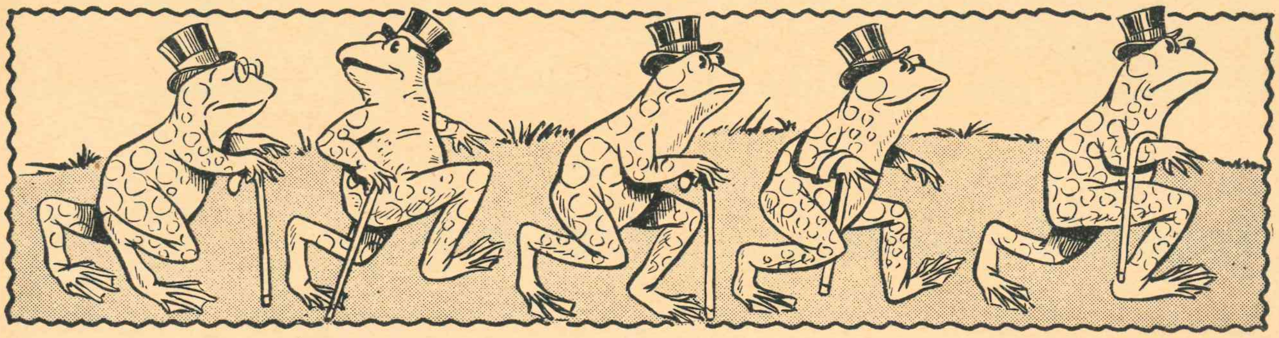
First, Second, Third

Color the first frog green. Put X on the second frog.

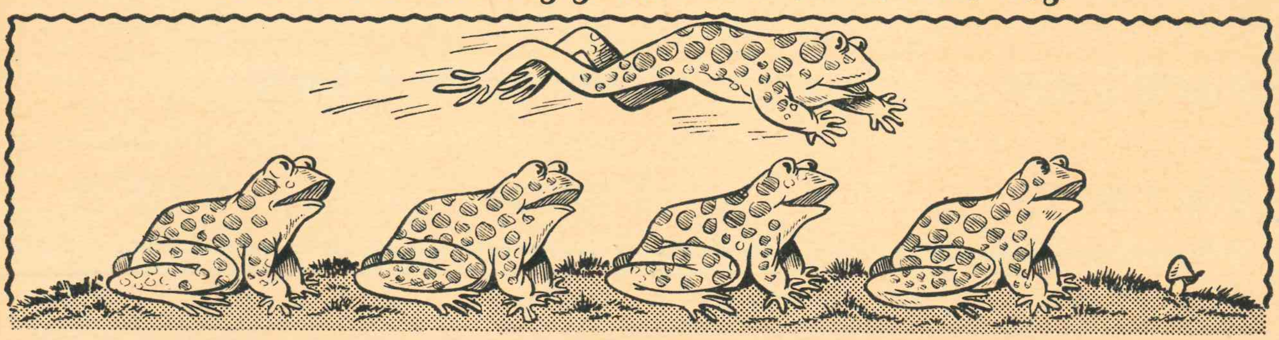


1—first 2—second 3—third

Draw a ring around the third frog. Put X on the second frog.



Color the second frog green. Put X on the third frog.



Draw a ring around the right phrase for each picture.



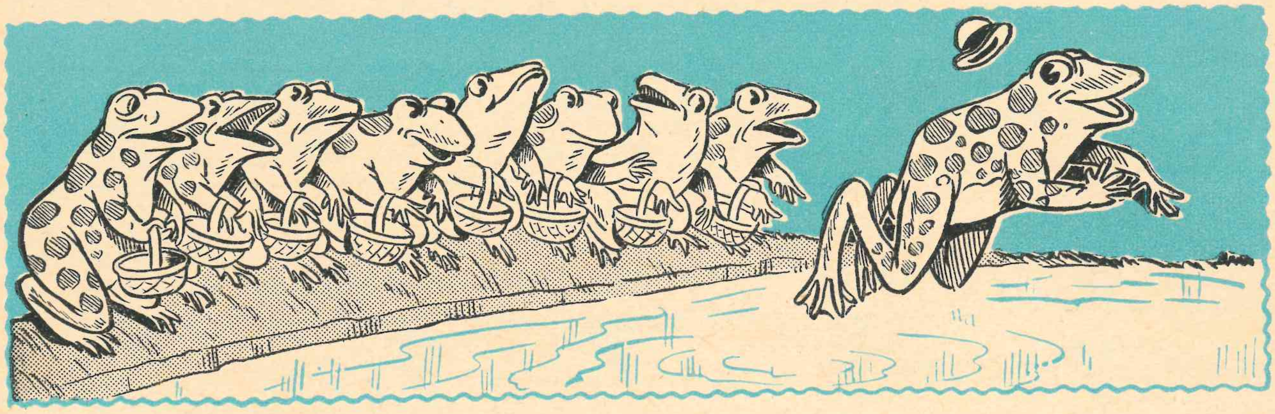
first frog	third frog	third frog
third frog	second frog	first frog

Draw a line from each number to the right word.

2	first	1	second	3	third
3	second	2	third	1	first
1	third	3	first	2	second

Stories About Nine

Use the picture to find the answers.



Frogs with baskets ....

Frogs jumping ....

8 and 1 are ....

$8 + 1 =$

Frogs in all ....

Frogs with baskets ....

Take away 8 frogs.

9 minus 8 is .... $9 - 8 =$

Frogs jumping ....

Frogs with baskets ....

1 and 8 are ....

$1 + 8 =$

Frogs in all ....

Frogs jumping ....

Take away 1 frog.

9 minus 1 are .... $9 - 1 =$

Add

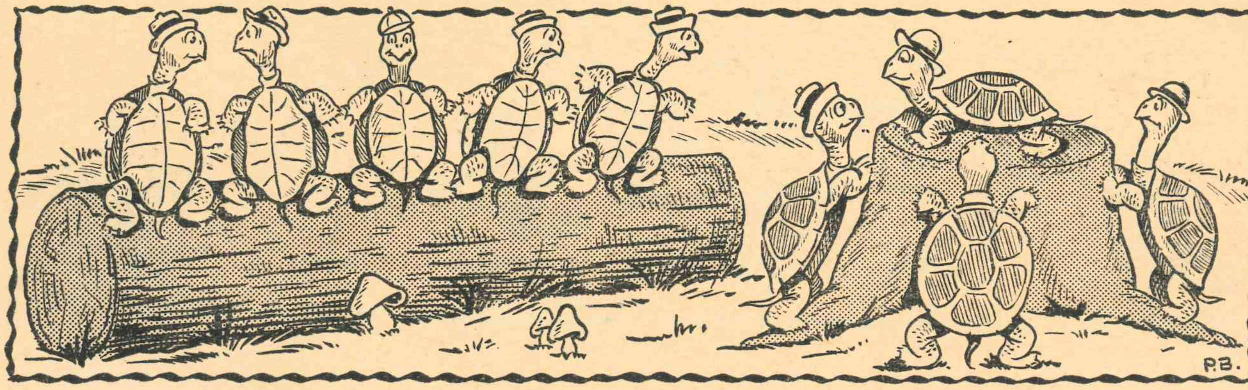
$\begin{array}{r} 8 \\ 1 \\ \hline \end{array}$ $\begin{array}{r} 1 \\ 8 \\ \hline \end{array}$ $\begin{array}{r} 8 \\ 1 \\ \hline \end{array}$ $\begin{array}{r} 1 \\ 8 \\ \hline \end{array}$

Subtract

$\begin{array}{r} 9 \\ 8 \\ \hline \end{array}$ $\begin{array}{r} 9 \\ 1 \\ \hline \end{array}$ $\begin{array}{r} 9 \\ 8 \\ \hline \end{array}$ $\begin{array}{r} 9 \\ 1 \\ \hline \end{array}$

More Stories About Nine

Use the picture to find the answers.



4 turtles and 5 turtles are .... turtles.

5 turtles and 4 turtles are .... turtles.

4 and 5 are ....

5 and 4 are ....

$4+5=$

$5+4=$

9 turtles minus 4 turtles are .... turtles.

9 turtles minus 5 turtles are .... turtles.

9 minus 4 are ....

9 minus 5 are ....

$9-4=$

$9-5=$

Add

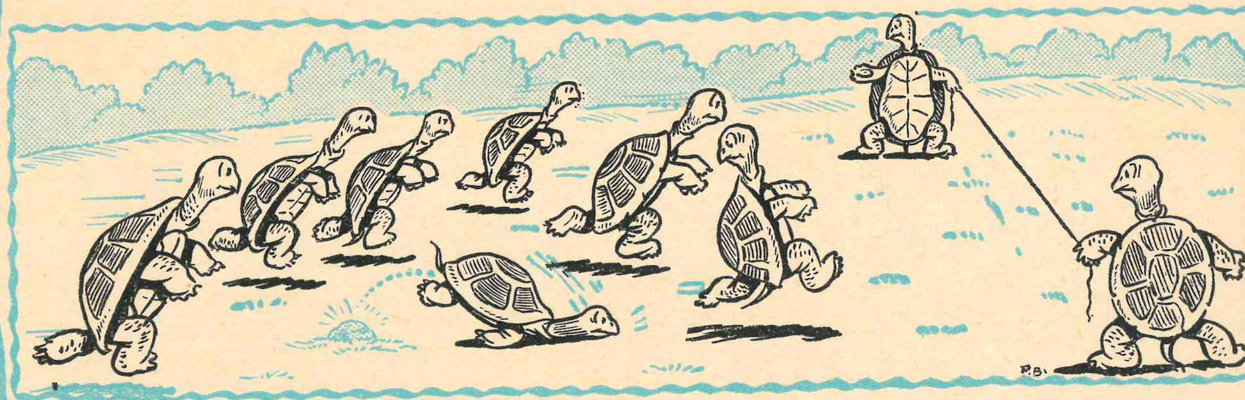
4	8	5	1
5	1	4	8

Subtract

9	9	9	9
4	1	8	5

More Stories About Nine

Use the picture to find the answers.



7 turtles and 2 turtles are

-------- turtles.

2 turtles and 7 turtles are

-------- turtles.

7 and 2 are --------

2 and 7 are --------

$7 + 2 =$

$2 + 7 =$

9 turtles minus 2 turtles are

-------- turtles.

9 turtles minus 7 turtles are

-------- turtles.

9 minus 2 are --------

9 minus 7 are --------

$9 - 2 =$

$9 - 7 =$

Add

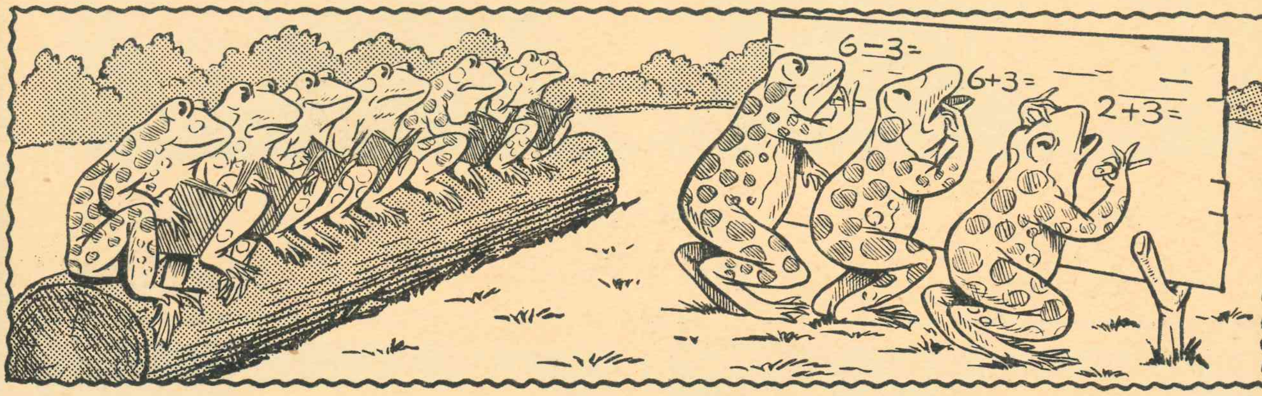
7	1	2	4
2	8	7	5

Subtract

9	9	9	9
1	2	8	7

More Stories About Nine

Use the picture to find the answers.



Frogs with books .... Frogs in all ....

Frogs writing .... Frogs with books ....

6 and 3 are .... Take away 6 frogs.

$6 + 3 =$ 9 minus 6 are .... $9 - 6 =$

Frogs writing .... Frogs in all ....

Frogs with books .... Frogs writing ....

3 and 6 are .... Take away 3 frogs.

$3 + 6 =$ 9 minus 3 are .... $9 - 3 =$

Add				Subtract			
6	5	3	2	9	9	9	9
3	4	6	7	6	4	3	5

Money



1 cent
one cent

1 nickel
one nickel

1 dime
one dime



5 cents = 1 nickel.



10 cents = 1 dime.



2 nickels = 1 dime.

5 cents are .... nickel.

10 cents are .... dime.

2 nickels are .... dime.

Fill in the right answers.

5 cents = ... nickel.

2 nickels = ... dime.

10 cents = ... dime.

1 dime = ... cents.

5 cents and 1 cent are .... cents.

2 cents and 2 cents are .... cents.

3 cents and 5 cents are .... cents.

2 cents and 1 cent are .... cents.

Note to Teacher: Almost daily, children meet real situations for using money. They will also enjoy playing store, using toy money. Many simple money problems involving addition and subtraction combinations developed to date will arise in playing store.
The concepts of pennies, nickels, dimes, and their relationships are stressed because this book deals only with the meanings of numbers through 10.

Review Number Stories

2 + 3 =	1 + 4 =	5 − 3 =	5 − 1 =
4 + 1 =	3 + 2 =	5 − 2 =	5 − 4 =
3 + 3 =	5 + 1 =	6 − 3 =	6 − 2 =
4 + 2 =	2 + 4 =	6 − 1 =	6 − 4 =
6 + 1 =	4 + 3 =	7 − 6 =	7 − 1 =
5 + 2 =	1 + 6 =	7 − 4 =	7 − 2 =
3 + 4 =	2 + 5 =	7 − 3 =	7 − 5 =
4 + 4 =	7 + 1 =	8 − 4 =	8 − 7 =
5 + 3 =	6 + 2 =	8 − 1 =	8 − 5 =
2 + 6 =	3 + 5 =	8 − 2 =	8 − 3 =

Add

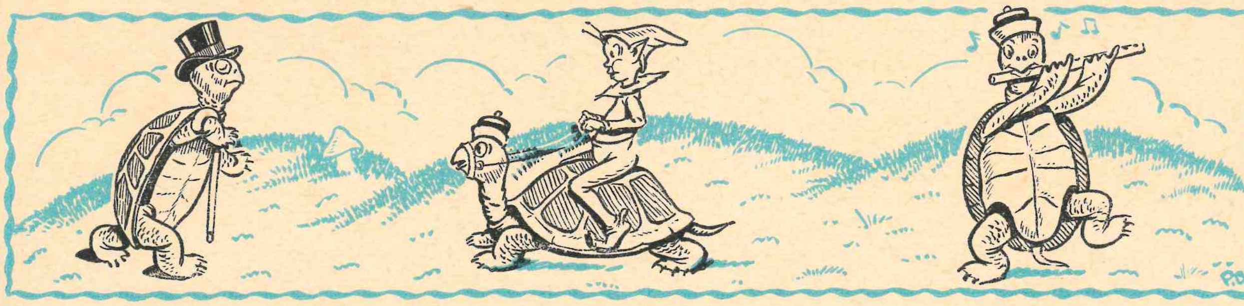
5	1	2	5
1	7	3	3

Subtract

6	8	5	7
5	6	3	3

Check on Unit 7

Draw a line from the picture to the right word.



second third first

Add

8	4	7
1	5	2

6	1	2
3	8	7

5	3	5
4	6	4

Subtract

9	9	9
8	4	2

9	9	9
1	7	3

9	9	9
6	5	6

Fill in the right answers.

5 cents = ... nickel.

2 nickels = ... dime.

1 nickel = ... cents.

10 cents = ... dime.

4 cents and 5 cents are .... cents.

6 cents and 3 cents are .... cents.

8 cents and 1 cent are .... cents.

7 cents and 2 cents are .... cents.

Unit 8

Writing Numbers

Write the numbers from 1 to 10.

-------- -------- -------- -------- --------

-------- -------- -------- -------- --------

Write the numbers for each word below.

one --------- five --------- three -------- nine --------- two --------

four -------- eight -------- six ---------- seven -------- ten --------

What number comes before:		What number comes after:		What number comes between:
--------- 3	--------- 6	2 --------	8 --------	6 --------- 8
--------- 5	--------- 9	6 --------	4 --------	1 --------- 3
--------- 2	--------- 4	1 --------	9 --------	8 -------- 10
-------- 10	--------- 8	7 --------	5 --------	2 --------- 4

Write in the missing numbers.

1		3	4		6		8	9	
	2	3				7			10

Number Words

Draw a line from each number to the right word.

2	five	7	eight	5	six
4	three	9	six	4	nine
5	two	8	seven	7	seven
3	one	6	ten	6	five
1	four	10	nine	9	four

Draw a ring around the right number word.

■ ■

three two six

● ●
● ●

one four nine

◆

seven five one

★ ★ ★
★ ★ ★

six eight ten

▲
▲ ▲

four three one

○ ○ ○
○
○ ○ ○

two five seven

●
● ● ●
●

five two ten

▲ ▲ ▲ ▲
▲ ▲ ▲ ▲

four eight six

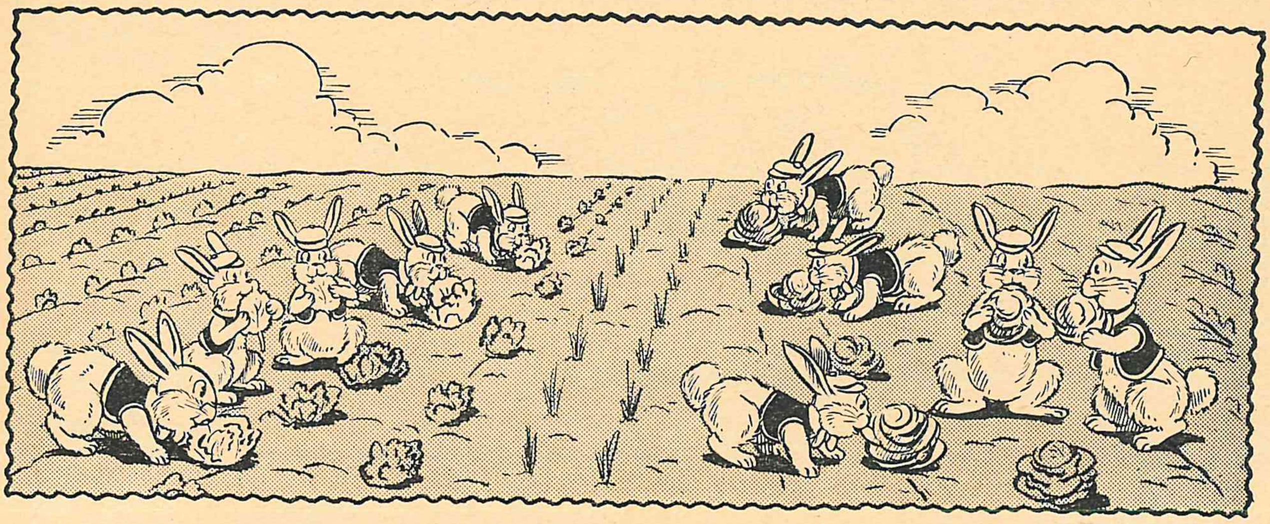
★ ★ ★ ★
★ ★
★ ★ ★ ★

ten six three

■ ■ ■ ■
■
■ ■ ■ ■

one seven nine

Stories About Ten



5 rabbits and 5 rabbits are .... rabbits.

5 and 5 are ....

$5 + 5 =$

9 rabbits and 1 rabbit are .... rabbits.

9 and 1 are .... $9 + 1 =$

1 and 9 are .... $1 + 9 =$

10 rabbits minus 5 rabbits are .... rabbits.

10 rabbits minus 9 rabbits is .... rabbit.

10 rabbits minus 1 rabbit are .... rabbits.

10 minus 5 are ....

10 minus 9 is ....

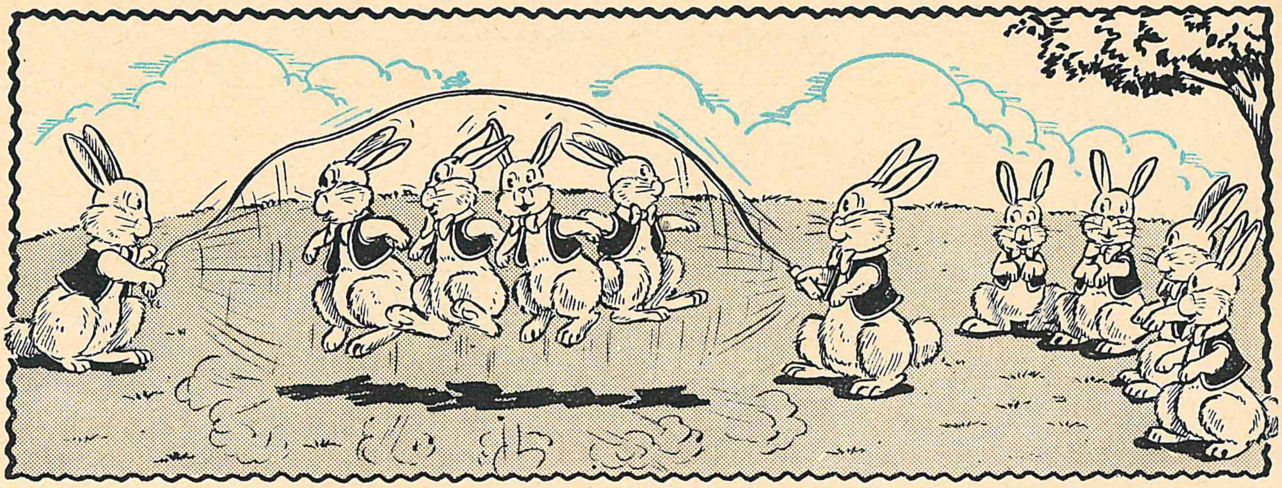
10 minus 1 are ....

$10 - 5 =$

$10 - 9 =$

$10 - 1 =$

More Stories About Ten



Rabbits playing ....

Rabbits watching ....

6 and 4 are ....

$6 + 4 =$

Rabbits watching ....

Rabbits playing ....

4 and 6 are ....

$4 + 6 =$

Rabbits in all ....

Rabbits watching ....

Take away 4 rabbits.

10 minus 4 are ....

$10 - 4 =$

Rabbits in all ....

Rabbits playing ....

Take away 6 rabbits.

10 minus 6 are ....

$10 - 6 =$

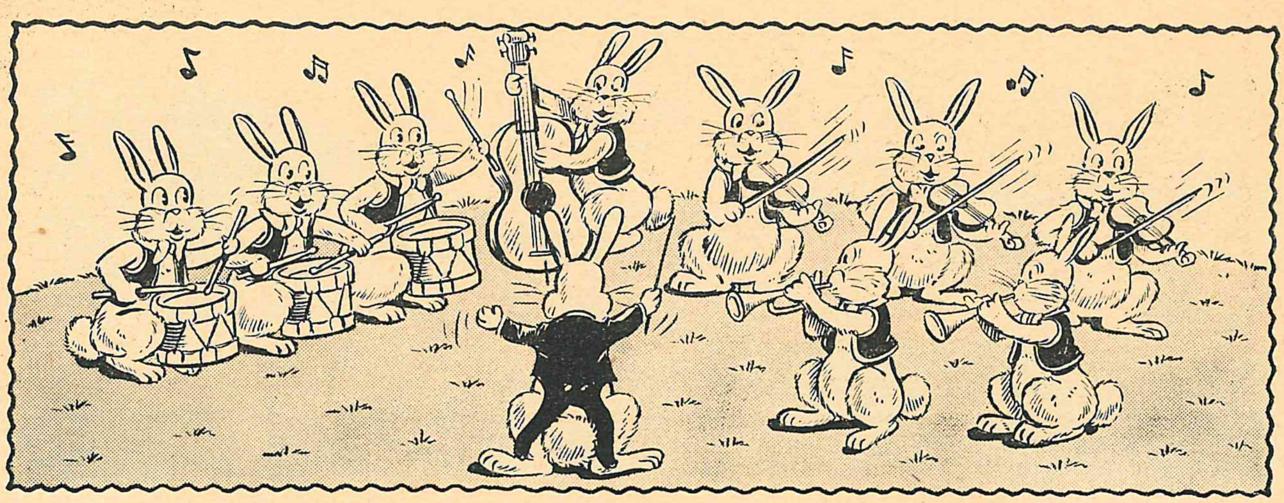
Add

6	5	4	9
4	5	6	1

Subtract

10	10	10	10
4	9	6	1

More Stories About Ten



7 rabbits and 3 rabbits are

.... rabbits.

3 rabbits and 7 rabbits are

.... rabbits.

7 and 3 are ....

3 and 7 are ....

$7 + 3 =$

$3 + 7 =$

10 rabbits minus 3 rabbits are

.... rabbits.

10 rabbits minus 7 rabbits are

.... rabbits.

10 minus 3 are ....

10 minus 7 are ....

$10 - 3 =$

$10 - 7 =$

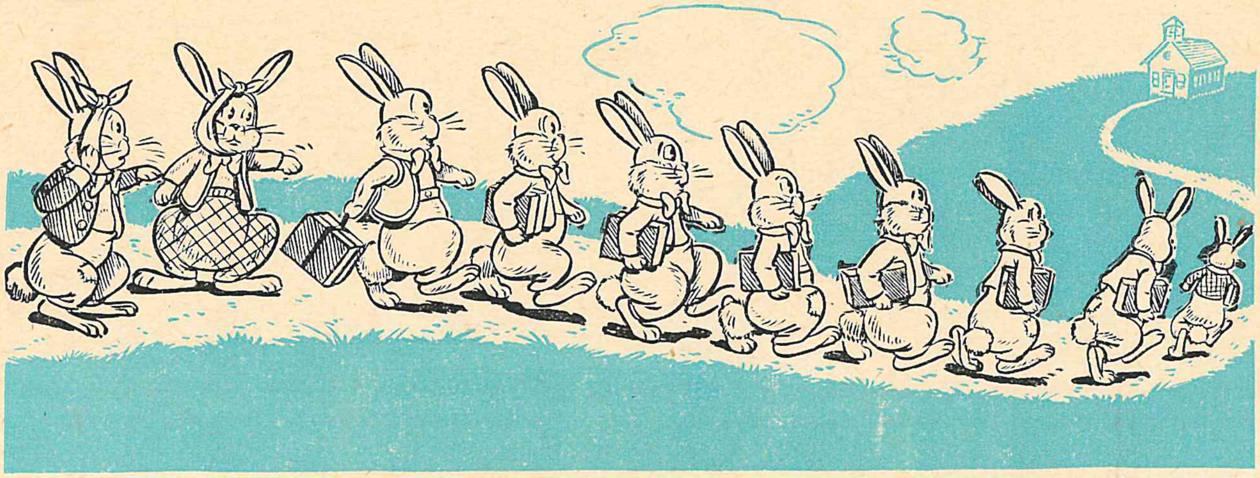
Add

7	1	3	6
3	9	7	4

Subtract

10	10	10	10
3	6	7	9

More Stories About Ten



8 rabbits and 2 rabbits are

.... rabbits.

2 rabbits and 8 rabbits are

.... rabbits.

8 and 2 are ....

2 and 8 are ....

$8 + 2 =$

$2 + 8 =$

10 rabbits minus 2 rabbits are

.... rabbits.

10 rabbits minus 8 rabbits are

.... rabbits.

10 minus 8 are ....

10 minus 2 are ....

$10 - 8 =$

$10 - 2 =$

Add

8	7	2	4
2	3	8	6

Subtract

10	10	10	10
8	4	2	5

Review Number Stories

$3+3=$	$5+1=$	$6-3=$	$6-5=$
$4+2=$	$3+3=$	$6-2=$	$6-1=$
$1+5=$	$2+4=$	$6-4=$	$6-2=$
$6+1=$	$4+3=$	$7-6=$	$7-3=$
$5+2=$	$1+6=$	$7-4=$	$7-2=$
$3+4=$	$2+5=$	$7-1=$	$7-5=$
$4+4=$	$7+1=$	$8-4=$	$8-7=$
$3+5=$	$6+2=$	$8-2=$	$8-5=$
$1+7=$	$5+3=$	$8-3=$	$8-6=$
$2+6=$	$3+5=$	$8-1=$	$8-2=$
$8+1=$	$4+5=$	$9-8=$	$9-5=$
$7+2=$	$6+3=$	$9-2=$	$9-6=$
$5+4=$	$2+7=$	$9-3=$	$9-4=$
$1+8=$	$3+6=$	$9-7=$	$9-1=$

Check on Unit 8

5 + 5 =	9 + 1 =	10 − 7 =	10 − 3 =
4 + 6 =	7 + 3 =	10 − 9 =	10 − 6 =
8 + 2 =	6 + 4 =	10 − 4 =	10 − 8 =
1 + 9 =	2 + 8 =	10 − 1 =	10 − 5 =
3 + 7 =	4 + 6 =	10 − 3 =	10 − 2 =

Add

7 3	8 2	4 6
9 1	5 5	3 7
6 4	1 9	2 8
5 5	3 7	4 6

Subtract

10 5	10 2	10 8
10 4	10 6	10 9
10 1	10 7	10 3
10 2	10 3	10 6

How To Use Easy Steps in Arithmetic

All children have learned some arithmetic before they come to school. They have counted in games, saved money, made small purchases, and carried on other activities which required arithmetic. As a consequence, children come to school ready to learn and having a need for numbers.

Easy Steps in Arithmetic can be used for the child's first systematic instruction in numbers, whether this time comes during the last half of the first year or the beginning of the second year.

The teaching process is essentially a cycle. Each new concept or process in Easy Steps in Arithmetic is developed on the basic factors of: readiness, understanding, and mastery. However, mastery should *not* be expected of first grade children except the few who are sufficiently mature.

In order to use this book most effectively, the following teaching steps are suggested.

Pre-Book Instruction for Introducing Meanings. In this period, the child must understand what he is to learn. At this time, meanings are developed through manipulations with *real* objects. Meanings and facts are *discovered* but not learned at this time. This is a period of exploration when *meanings are introduced.*

Book Instruction for Extending Meanings. During this period, the children discover facts by studying pictures of real objects (semi-concrete) and later pictures of squares, dots, circles, et cetera (semi-abstract objects).

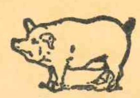
Next, the children apply the facts discovered in the pictures to the abstract combinations. Hence, this period is a time for *the extension of meanings.*

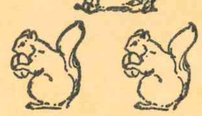
More specific instructions to the teacher are given at the bottom of certain pages in Easy Steps in Arithmetic.

Post-Book Instruction for Applying Meanings. Do not neglect this last step. Children need to acquire facility in using the facts they have learned. Put the new ideas and skills to use. Practical problems arising out of the children's activities are present in every classroom if such problems are constantly set by the teacher. For example, the children should count scissors, papers, et cetera, as the need arises each day.

Wall Chart of Basic Number Concepts

A large wall chart of basic number concepts should be made for reference purposes. The chart should include large pictures (both semi-concrete and semi-abstract), Arabic symbols, and number words to develop the basic concepts of numbers from one to ten. New numbers may be added to the chart as they are developed. A suggested number chart is given below.

one 1  □

two 2  ○ ○

Practice in recognizing the symbols can be given as follows:

1. Place cards bearing the Arabic numbers from 1 to 10 along the blackboard rail in miscellaneous order. Pupils may rearrange cards in order by referring to the chart for assistance.
2. Use cards bearing the number words (one, two, etc.) and have children rearrange as suggested in 1 above.
3. Use both sets of cards (figures and words) in miscellaneous order. Have pupils match the correct word and Arabic figure cards. Children should refer to wall chart whenever necessary.
4. Place several objects on a table. Have pupils find the number and word cards which tell the number of objects on the table.

Flash Cards

Flash cards may be used effectively in teaching number facts *after* the *meanings* of such facts have been well developed. A flash card game which calls for a multiple response from the whole class is more effective than a card device which requires one child to answer at any one time. Arithmetic games are of value in proportion to the amount of general participation.

Each pupil should be equipped with a small individual set of flash cards. The large numbers from old calendars make good flash cards. The cards are made as follows for each new number combination.

front of card

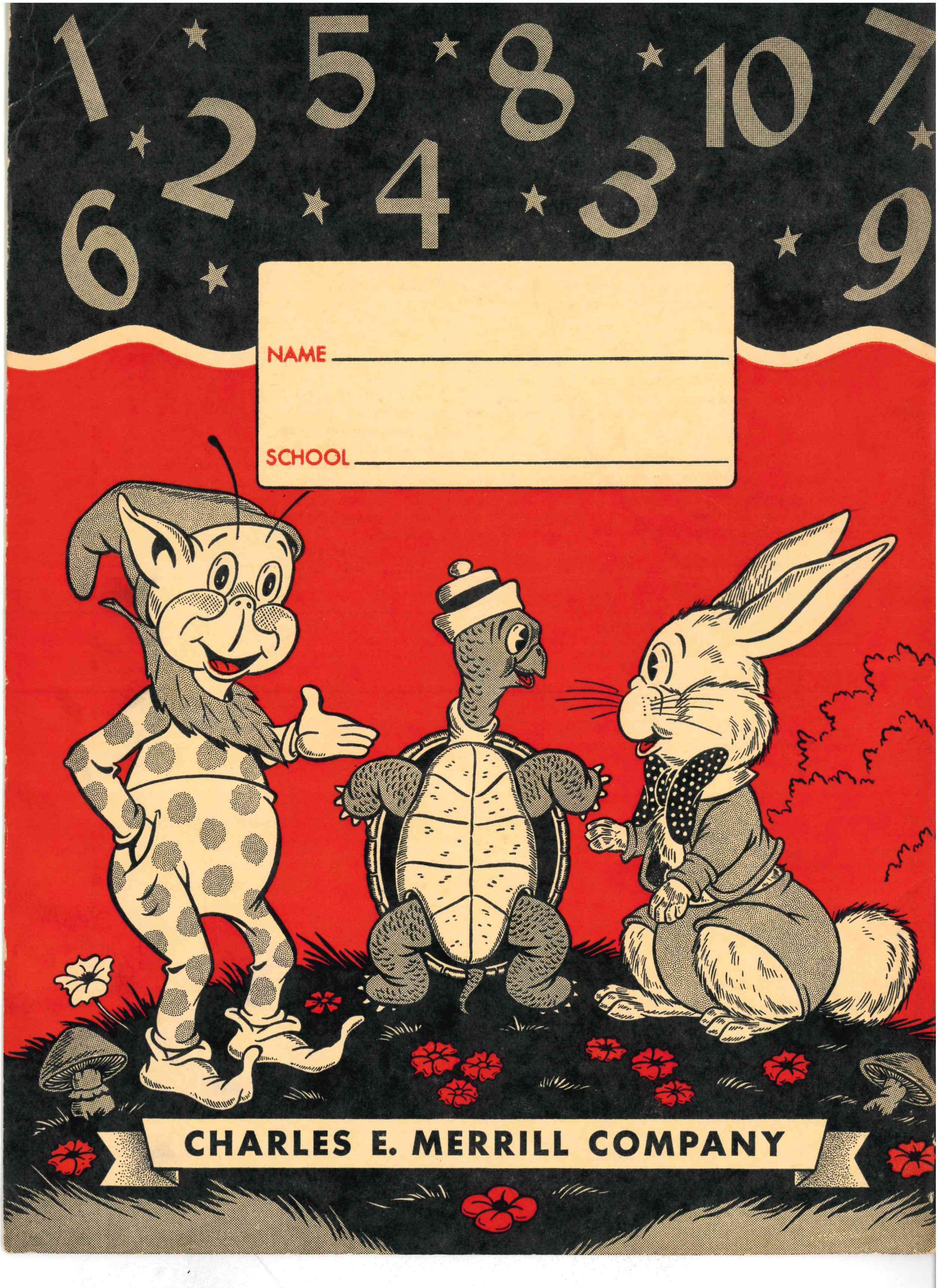
$$\begin{array}{r} 2 \\ \underline{2} \end{array}$$

back of card

4

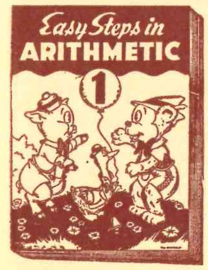
Game 1. As the teacher holds up the example side of her card, *all* pupils hold up the correct answer as 4. Thus, the teacher can tell which pupils may not have grasped the number fact as yet.

Game 2. Groups of 3 to 6 children will enjoy playing a matching game with their flash cards. One pupil lays down a card, such as $4 + 1$. The first pupil who places on top of it a card of his own bearing the number 5 takes the trick. The winning pupil then lays down a card for the rest to match.


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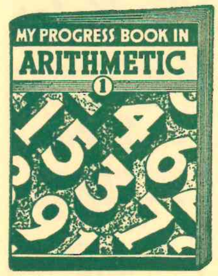
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1 2 3 4 5 6 7 8 9 0 A B C D E F G H J K